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ABSTRACT

This teacher's guide is one of a series of publications focusing on the occupational preparation of persons with special education needs. The material was developed and tested by cooperating teachers over a period of three years. Task analysis information is presented using occupational descriptions from the Dictionary of Occupational Titles, covering entry level occupations generally available in Michigan. Instructional task modules are presented in detail under the headings: behavioral task knowledges/task skills, instructional methods, task-related competencies, instructional materials, basic information for cooperative teaching (language of the task and quantitative concepts), and suggestions. An instructional materials bibliography is included, followed by two appendixes, an instructional materials code indicating probable learning sensations, and a task-related competencies code. This guide describes eight tasks common to the graphics and communications media cluster. Tasks are described for selected entry occupations for the following subclusters: bookbinding (21 tasks for two occupations), screen printing (6 tasks for four occupations), offset lithography (12 tasks for seven occupations), letterpress printing (20 tasks for five occupations), commercial photography (10 tasks for four occupations), and drafting (16 tasks for four occupations). (SA)

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Cluster Guide

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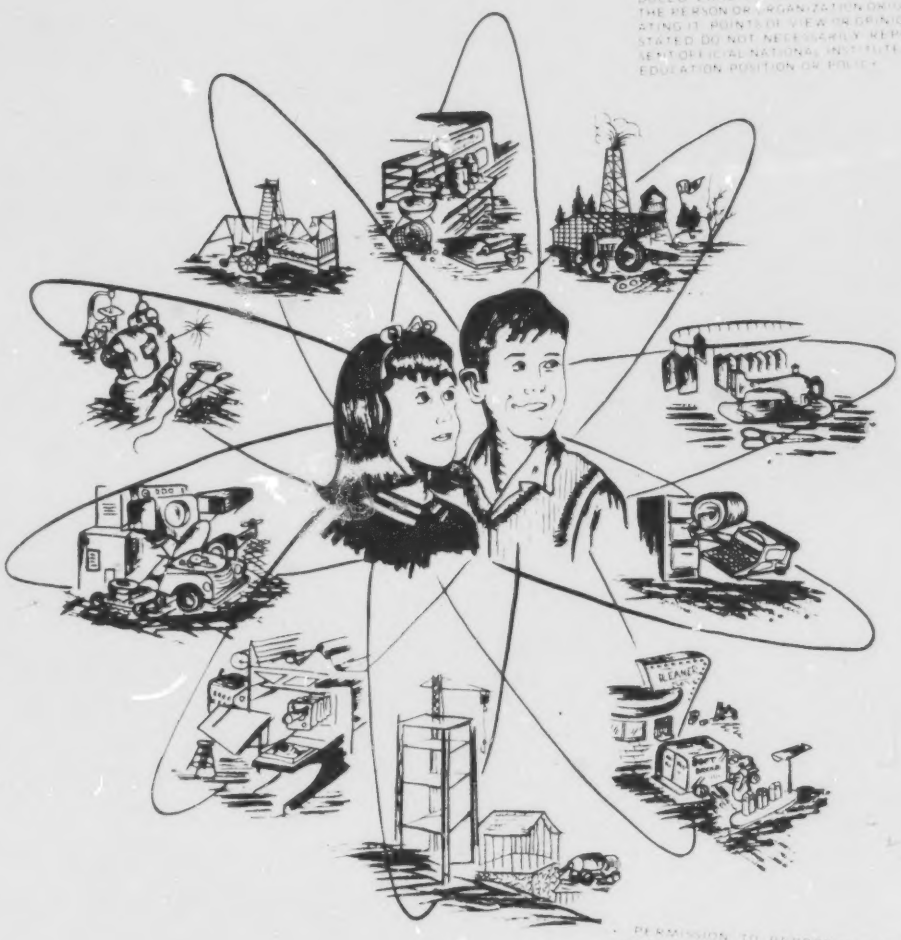

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An Instructional Resource Guide to Enhance Cooperative Vocational Education / Special Education Teaching

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GRAPHICS AND COMMUNICATION MEDIA CLUSTER GUIDE

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Director: M. LeRoy Reynolds

Coordinator: Ronald J. Lutz

Special Education
Consultant: Cleo B. Johnson

Vocational Education
Consultant: L. Allen Phelps

Secretary: Jackie Champion

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Mt. Pleasant, Michigan 48859

PREFACE

This teacher's guide is one of a series of publications focusing upon the occupational preparation of persons with special education needs. It is intended to be used jointly by concerned teachers as they work collectively to serve students with unique educational problems. Developed and tested by cooperating teachers, these materials represent the culmination of three years of intensive listening, communication, cooperation, and positive action between vocational and special education teachers. If the exciting ideas in these pages are actively and cooperatively implemented, the impact upon our young people could well be tremendous.

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Field Evaluation Teachers

Dave Kiefer Vocational Graphics	Kitty Medler Special Education	Career Opportunities Center 2102 Weiss Street Saginaw, Michigan 48602
Harvey Pearl Vocational Graphics Kenneth J. Weigle Drafting	Jack Mason Venisure Jordan Special Education	Genesee Area Skill Center G-5081 Torrey Road Flint, Michigan 48507
Wayne Sheathelm Vocational Graphics	Francine Lauer Occupational Adjustment Teacher	Michigan School for the Deaf West Court at Miller Road Flint, Michigan 48502
Joe Beland Drafting	Beverly Kihn Special Education	Alpena High School 3303 S. Third Avenue Alpena, Michigan 49707
Lanny Johnston Vocational Graphics	Chuck Dunham Special Education	Calhoun Area Vocational Center 475 East Roosevelt Battle Creek, Michigan 49017

Advisory Personnel

Robert Ringel, A.I.A., CENTRAL MICHIGAN UNIVERSITY, Mt. Pleasant, Michigan

George D. Robert, MAGLINE CORPORATION, Pinconning, Michigan

Burton Swartzloff, GREENVILLE PRODUCTION CORPORATION, Greenville, Michigan

Robert Pillotte, A.I.A., Mt. Pleasant, Michigan

Larry Augustyniak, QUESTOR AUTOMOTIVE COMPANY, Pinconning, Michigan

Portions of the occupational task analysis data/information for the Graphics and Communication Media Cluster were obtained from the Ingham Intermediate School District. In early 1973, this Intermediate School District completed a comprehensive task analysis project covering 50 different occupations in a three county area. Selected key analysis occupations in this cluster were identical to those graphics occupations identified and analyzed by the project.

Acknowledgement is due the Ingham Intermediate School District and the Michigan Department of Education for arranging for the release of this data.

C.M.U. Students

Art Briggs, Department of Industrial Education and Technology

Douglas Dodd, Department of Industrial Education and Technology

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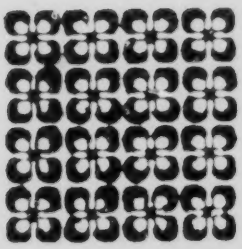

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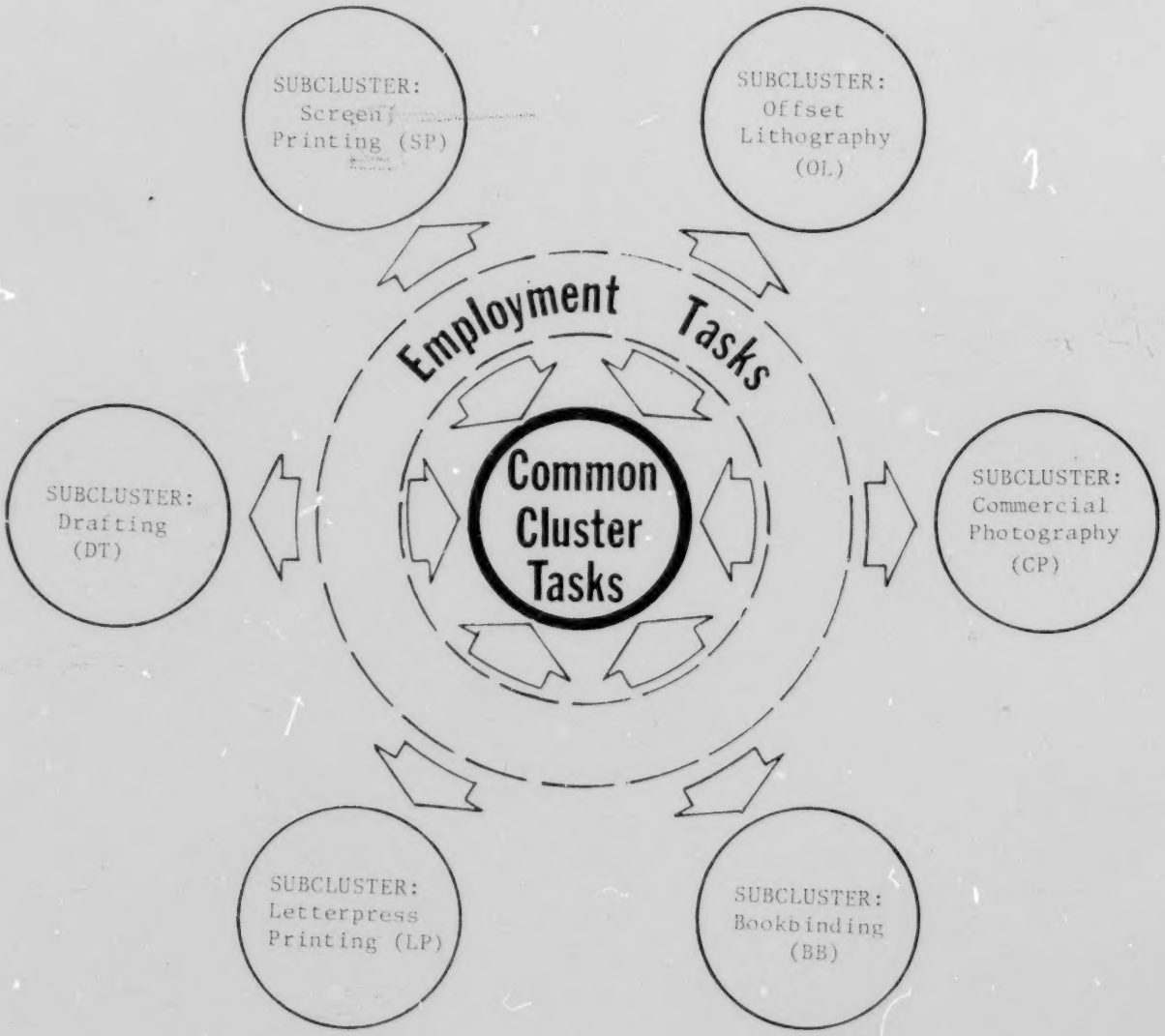
- SUBCLUSTER COMMONALITY ANALYSIS: COMMERCIAL PHOTOGRAPHY
- SUBCLUSTER COMMONALITY ANALYSIS: DRAFTING

CLUSTER ORGANIZATION

GRAPHICS AND COMMUNICATION MEDIA CLUSTER

(GCM)



CLUSTERED OCCUPATIONS

CLUSTER: GRAPHICS AND COMMUNICATION MEDIA

OE PROGRAM CODE	SUBCLUSTER TITLE	D.O.T.	OCCUPATIONAL TITLES
17.13	Drafting	*017.281	Detailer
		007.187	Tool Drawing Checker
		017.281	Draftsman
		017.281	Draftsman Apprentice
17.1902	Offset Lithography	659.380	Plate Finisher
		*972.383	Photographer, Lithographic
		651.782	Striper Man
		979.782	Blocker
		*651.885	Offset-Press Operator
		651.886	Press-Man Helper
		651.782	Offset-Duplicating-Machine Operator
17.1905	Screen Printing	979.381	Silk-Screen Maker
		979.884	Screen Printer
		979.884	Screen Printing Machine Operator
		*979.884	Silk-Screen Printer
17.1906	Bookbinding	*977.884	Bookbinder
		*977.781	Bindery Machine Operator
17.1902	Letterpress	*651.782	Platen-Press Man
		651.782	Platen-Press Man Apprentice
		651.782	Printing Press Operator
		651.885	Platen-Press Feeder
		973.381	Compositor
17.0901	Commercial Photography	*976.782	Color-Printer Operator
		976.381	Developer
		976.381	Projection Printer
		976.687	Photo Checker and Assembler

*Key Analysis Occupation

DICTIONARY OF OCCUPATIONAL TITLES

The following is a list of occupational descriptions taken from the third edition (1965) of the Dictionary of Occupational Titles. These represent the key analysis occupations for the Graphics and Communication Media Cluster.

Each occupational title represents an entry-level occupation which is generally available (in demand) across the state of Michigan at the present time. However, teachers and curriculum planners must carefully study the generalizability of this information/data to the specific community. Local or regional manpower information and data must be carefully reviewed and analyzed in making decisions related to local vocational programs offerings and specific curriculum or course content.

977.884 *BOOKBINDER* Binds covers to books or pamphlets, and performs book finishing operations, determining production procedures from job order: Compresses sewed-together signatures of book bodies to uniform thickness, using smashing machine. Applies glue to back of sewed signatures to stiffen back of book body. Trims books to size, using powered cutting machine. Inserts each book into machine that rounds, backs, and forms grooves at back edge in which covers are hinged. Stacks and alines books, after rounding and backing operation, and glues superlining and back-lining on each book. Attaches headband if required. Applies solid or mixed colors to edges of signatures, using brush or pad. Fabricates cover for book, cutting and trimming material to size, and gluing on backbinding and chipboard. Glues cover to end sheets and places books in press to dry. Finishes book by embossing lettering or designs on cover, using heated handtools.

976.782 *COLOR-PRINTER OPERATOR* Controls semiautomatic equipment to produce color prints from negatives: Loads roll of printing paper into machine, under darkroom conditions. Examines color negative to determine equipment control settings for production of prints meeting acceptable color-fidelity standards. Sets controls in accordance with examination, loads negative into machine, and starts machine to produce specified number of prints. Removes printed photographic paper from machine and places paper in developer. Inserts processed negatives and prints into envelope for return to customer.

017.281 *DETAILER* Makes detailed drawings of parts of machines or structures from rough or general design drawings: Shows dimensions, material to be used, and other information necessary to make detailed drawing clear and complete. Makes tracing of finished drawing on semitransparent paper from which blueprints can be made (Draftsman). May specialize in preparing detail drawings for specific type of machine, structure, or product.

651.885 *OFFSET-PRESS OPERATOR* Tends manually controlled offset press that prints lettering on plastic containers: Rolls machine carriage, equipped with pair of clean and inked cylinders, back and forth over press bed to ink engraved plates and transfer impression to clean cylinder. Positions containers in holders in front of engraved plates. Pulls carriage forward so that letters are impressed on clean cylinder and transferred to surface of container. Inspects containers for smears or stains, places satisfactory ones on conveyor leading to drying oven, and sets aside rejects. Prints flexible containers on press equipped with airhose; forces air into container with hose to produce solid surface for printing. Periodically washes cylinders with solvent. Spreads ink on cleaned cylinder with spatula.

972.382 *PHOTOGRAPHER, LITHOGRAPHIC* Sets up and operates camera to photograph illustrations and printed material to produce film or glass negatives, or reversed negatives used in the preparation of lithographic printing plates: Mounts material to be photographed on copy board and focuses camera to enlarge or reduce size of object in photograph. Selects and places screen over negative to break up shadings in object for halftone printing. Places color filters over film to produce four-color separation, halftone separation, and process prints for multicolor printing. Focuses lens, adjusts lights, and exposes film to copy for specified period of time. Develops and dries film or glass plate. Prepares film or glass plate positives by contact method from negatives.

651.782 *PLATEN-PRESS MAN* Makes ready and operates platen-type printing press to produce printed material: Determines set-up and operating procedures from work order. Inserts type setup or plate in press bed and tightens locking attachment, using wrench. Adjusts inking rollers to obtain even distribution of ink. Regulates ink flow by adjusting thumbscrews on fountain. Starts press and directs Platen-Press Feeder to feed sheets by hand onto press platen or to place stack of sheets in feed tray if press is equipped with automatic feeding mechanism. Readjusts press during run to obtain specified color registration.

979.884 *SILK-SCREEN PRINTER* Prints lettering and designs on objects, such as posters, targets, instrument dials, furniture, and toys, using silk-screen printing machine: Positions object against guides on set-up board in machine and lowers silk screen. Draws squeegee dipped in paint across screen to transfer design to object. Cleans screen with solvent at end of run and when using different colors.

CLUSTER COMMONALITY ANALYSIS

GRAPHICS AND COMMUNICATION MEDIA

COMMON CLUSTER TASKS (CT)

SUBCLUSTERS (GCM)

BOOKBINDING	SCREEN PRINTING	OFFSET LITHOGRAPHY	LETTERPRESS PRINTING	COMMERCIAL PHOTOGRAPHY	DRAFTING
	x	x	x		o
x	x	o	x	x	o
	x	o	x		
	x	x	x		o
	x	o	o	o	x
	x	o	x	o	x
	x	o	x		
	x	x	x		x

INSTRUCTIONAL TASKS

CT01 Prepare rough sketches

CT02 Utilize proportioning elements

CT03 Select type faces and styles

CT04 Fit copy

CT05 Prepare copy by machine

CT06 Prepare copy by non-machine methods

CT07 Design and produce layouts

CT08 Proofread copy

x - Essential

o - Desirable

SUBCLUSTER COMMONALITY ANALYSIS:

BOOKBINDING

**There are a variety of different bindery machines and each machine is operated by someone with the appropriate skills. The analysis in this column indicates the different specializations among bindery machine operators, and should not be considered as representing one occupation.*

SELECTED ENTRY OCCUPATIONS

INSTRUCTIONAL TASKS		BOOKBINDER	BINDERY MACHINE OPERATORS*
BB01	Identify the parts of a book	x	
BB02	Identify common and special bookbinding handtools	x	
BB03	Assemble various kinds of folds	x	
BB04	Determine grain direction in paper	x	
BB05	Operate a mechanical folder	o	x
BB06	Perform assembling procedures	x	
BB07	Bind a case bound book	x	
BB08	Perform perfect binding	x	x
BB09	Complete various book repairs	x	o
BB10	Operate stitching machine	x	x
BB11	Perform perforating by letterpress	o	x
BB12	Perform perforating by offset press	o	x
BB13	Perform perforating by special machine	o	x
BB14	Side stitch bindings	x	x
BB15	Saddle stitch bindings	x	x
BB16	Drill paper	x	
BB17	Laminate bindings	x	
BB18	Package products and materials	o	x
BB19	Bind pads of paper		x
BB20	Recognize specific characteristics of paper stocks	o	o
BB21	Cut paper	x	x

SUBCLUSTER COMMONALITY ANALYSIS:

SCREEN PRINTING

INSTRUCTIONAL TASKS	SELECTED ENTRY OCCUPATIONS			
	SCREEN PRINTER	SILK-SCREEN PRINTER	SCREEN-PRINTING-MACHINE OPERATOR	SILK-SCREEN MAKER
SP01 Prepare copy for screen printing		x		x
SP02 Prepare stencils	o	x	x	x
SP03 Prepare stencils by indirect methods	o	x	x	x
SP04 Block out screens	x	x	x	x
SP05 Apply flock and surface substances	x	x	x	
SP06 Set-up for multi-copy printing	x	x	x	

x - Essential

o - Desirable

SUBCLUSTER COMMONALITY ANALYSIS:

OFFSET LITHOGRAPHY

INSTRUCTIONAL TASKS	PLATE FINISHER	PHOTOGRAPHER, LITHOGRAPHIC	STRIPPER MAN	BLOCKER	OFFSET-PRESS OPERATOR	PRESS-MAN HELPER	OFFSET-DUPLICATING-MACHINE OPERATOR
	SELECTED ENTRY OCCUPATIONS						
OL01 Perform paste-up	x		x	x			
OL02 Perform darkroom procedures	o	x					
OL03 Operate darkroom equipment	o	x					
OL04 Operate copy camera	o	x					
OL05 Prepare a line negative	x	x	x	x	o		
OL06 Prepare a halftone	x	x	o	x	o		
OL07 Prepare a halftone using a contact screen	x	x	o	x	o		
OL08 Prepare and strip-up a flat	x	o	x		o		
OL09 Strip-up flats by selected techniques		o	x		o		
OL10 Complete imposition work	x				x	x	x
OL11 Prepare an offset plate	x	x			o	o	o
OL12 Load, operate, and unload offset presses					x	x	x

x- Essential

o- Desirable

SUBCLUSTER COMMONALITY ANALYSIS:

LETTERPRESS PRINTING

INSTRUCTIONAL TASKS		PLATEN-PRESS MAN	PLATEN-PRESS MAN APPRENTICE	PRINTING PRESS OPERATOR	PLATEN-PRESS FEEDER	COMPOSITOR
	SELECTED ENTRY OCCUPATIONS					
LP01	Understands type nomenclature	x	x	x	x	x
LP02	Use the printer's measuring system	o	o	o		x
LP03	Identify and classify type	x	x	o		x
LP04	Handle type			x		x
LP05	Use a composing stick			o		x
LP06	Pull proofs					x
LP07	Corrects forms					x
LP08	Make-up and tie-up forms					x
LP09	Cut and use leads, slugs, and rules			o		x
LP10	Lock-up forms			x		x
LP11	Prepares press platen	x	x		x	
LP12	Implements make-ready techniques and processes	x	x		o	
LP13	Completes bank work	x	x			
LP14	Uses grippers, fenders, and fingers	x	x		o	
LP15	Troubleshoot general problems at letterpress	x	x		o	
LP16	Recognize various plates used for letterpress	x	x		o	
LP17	Select papers for letterpress	x	x			
LP18	Clean and maintain type	o	o			x
LP19	Break forms and distribute type	o	o			x
LP20	Clean and maintain presses	x	x		x	

SUBCLUSTER COMMONALITY ANALYSIS

COMMERCIAL PHOTOGRAPHY

INSTRUCTIONAL TASKS		COLOR-PRINTER OPERATOR	DEVELOPER	PROJECTION PRINTER	PHOTO CHECKER AND ASSEMBLER
CP01	Identifying cameras and their operation	o		x	
CP02	Selecting film	o		x	
CP03	Taking pictures	o		x	
CP04	Developing negatives and prints	x	x	x	
CP05	Using light meters	o	o	x	
CP06	Using lenses	x	x	x	
CP07	Adjusting flash and lighting	o		x	
CP08	Using filters	x	o	o	o
CP09	Operate darkroom equipment	x	x	x	x
CP10	Making enlargements	x	x	x	x

SELECTED ENTRY OCCUPATIONS

x - Essential

o - Desirable

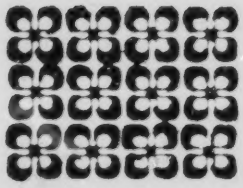
SUBCLUSTER COMMONALITY ANALYSIS:

DRAFTING

INSTRUCTIONAL TASKS		SELECTED ENTRY OCCUPATIONS			
		DETAILER	TOOL DRAWING CHECKER	DRAFTSMAN	DRAFTSMAN APPRENTICE
DT01	Prepare isometric sketches	o	x	x	x
DT02	Prepare multiview sketches	o	x	x	x
DT03	Letter drawings and graphic materials	x	x	x	x
DT04	Use drafting equipment in drawing simple shapes	x	x	x	x
DT05	Prepare geometric constructions with drafting equipment	x	x	x	x
DT06	Operate drawing reproduction machines	x	x	o	o
DT07	Construct and prepare isometric views	x	o	x	x
DT08	Construct and prepare multiview drawings	x	o	x	x
DT09	Dimension drawings	x	x	x	x
DT10	Prepare graphs and charts	o		x	x
DT11	Develop and construct sectional views	x	o	x	x
DT12	Prepare auxiliary views and revolutions	x	o	x	x
DT13	Construct developments and intersections	x	o	x	x
DT14	Construct and prepare perspective drawings	o		o	o
DT15	Detail screw threads and fasteners	x	o	x	x
DT16	Prepare design and working drawings	x	o	x	x

x - Essential

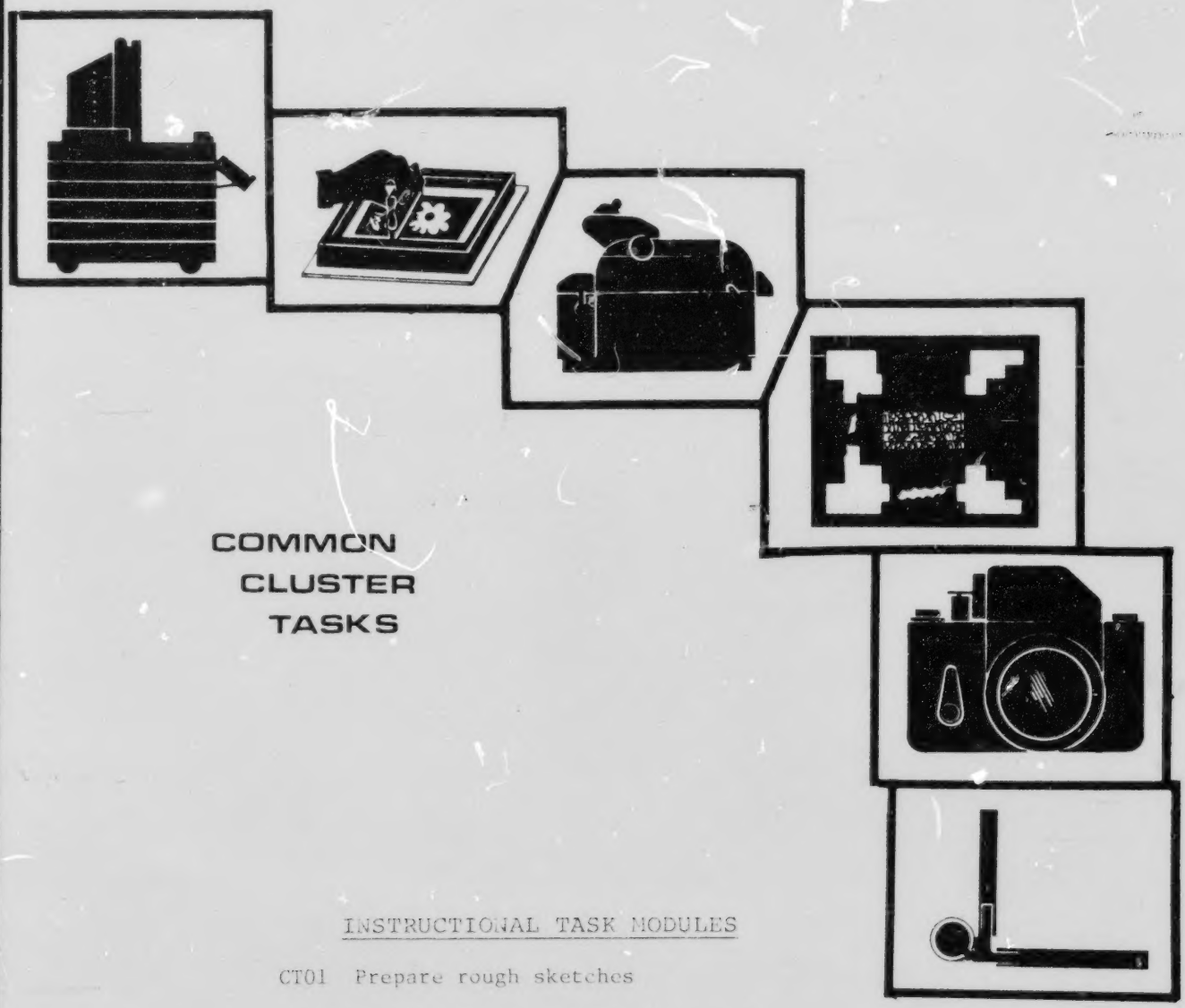
o - Desirable



INSTRUCTIONAL TASK MODULES

GRAPHICS AND COMMUNICATION MEDIA CLUSTER

- COMMON CLUSTER TASKS
- SUBCLUSTER: BOOKBINDING
- SUBCLUSTER: SCREEN PRINTING
- SUBCLUSTER: OFFSET LITHOGRAPHY
- SUBCLUSTER: LETTERPRESS PRINTING
- SUBCLUSTER: COMMERCIAL PHOTOGRAPHY
- SUBCLUSTER: DRAFTING



COMMON CLUSTER TASKS

INSTRUCTIONAL TASK MODULES

CT01 Prepare rough sketches

CT02 Utilize proportioning elements

CT03 Select type faces and styles

CT04 Fit copy

CT05 Prepare copy by machine

CT06 Prepare copy by non-machine methods

CT07 Design and produce layouts

CT08 Proofread copy

COMMON CLUSTER TASKS

TASK: Prepare rough sketches

Code: GCM - CT01

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. select the appropriate tools and materials for preparing rough sketches of a layout. 2. interpret customer's requests in preparing a rough sketch of the layout. 3. prepare a rough sketch of a layout which includes: a. headings b. body or text c. lines d. illustrations (rough) e. correct spelling and punctuation f. approximate proportions g. designations of colors h. notes and directions i. type face styles and sizes.

Instructional Methods

- Teacher presents the rough sketch, first in series of examples, illustrating the steps in producing copy.
- Students look at a collection of finished products and try to imagine and suggest a design of a rough sketch, being careful to include all necessary items.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,6,8,9	Photo Offset Fundamentals	13	18
NUMBERS	General Printing	13	18
B 2,4a,i	Graphic Arts Training in Schools	13	31
APPLICATION C 2,5,7			
PHYSICAL D 1a,c,d 2a, 3c,g			

COMMON CLUSTER TASKS

Code: GCM - CTO1 TASK: Prepare rough sketches

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• See graphic's teacher for a sketching practice sheet which illustrates different sketching techniques.
Thumbnail sketch Full size "rough" Type Trimmed sheet Layout Proportion	Measure most commonly used trimmed sheets Measure stock sizes of paper Discuss type size relationships in general terms, 24 pt. larger than 12 pt. Identify common sheet sizes for preparing rough sketches	

Supportive Instructional Materials:

COMMON CLUSTER TASKS

TASK: Utilize proportioning elements

Code: GCM - CT02

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and interpret the concept of element and spatial area proportions. 2. proportion the elements on a printed page by a ranking number system. 3. use the diagonal line method of proportioning. 4. use the mathematical method of proportioning copy. 5. use the percentage scale method of proportioning copy.	• Teacher leads discussion and demonstration of procedures for using proportioning elements. • Teacher demonstrates use of percentage scale individually. Each student does sample problems. • Students follow a teacher demonstration with "hands-on" supervision. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9 NUMBERS B 2a,4a,i,5,6 APPLICATION C 5,8 PHYSICAL D 1a,b,c,d 2a	Proportional scale transparency (teacher-made)	12	

COMMON CLUSTER TASKS

Code: GCM - CT02 TASK: Utilize proportioning elements

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	
Proportional spacing (Since the manual justification procedures for typewriters equipped with proportional spacings vary from model to model, contact the graphic arts teacher for the typewriters used locally and learn terms appropriate to them.) Marginator Copyfitting Carbon ribbon Diagonal line method Formula method	The students should be able to: Use a proportional scale Use the diagonal method of determining proportions for enlargements or reductions.	• Be careful in using words with multiple meanings so that partially sighted or deaf students form the correct concept. • Informally encourage voluntary buddy system for assisting partially sighted or deaf students (individualize without calling attention to individual. • It is essential that the supporting teacher contact the Graphic Arts teacher so that appropriate supportive information can be determined.

Supportive Instructional Materials:

Blow up of typewriter used in Graphic Arts Department
Proportional rule
See Graphic Arts teacher to determine the tools of proportioning

COMMON CLUSTER TASKS

TASK: Select type faces and styles

Code: GCM - CT03

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and select the appropriate styled type faces for traditional and modern layouts and photoengraving: a. traditional layouts 1) Roman 2) calligraphic. b. modern layouts 1) sans serif 2) modern Roman. c. photoengraving d. phototypesetting 1) lens 2) discs. 2. identify six (6) common type styles used in industry: a. Roman b. Gothic c. Italic d. Contemporary e. Text f. Script.	• Students select and identify type styles/faces from a magazine. • Teacher leads class discussion of types/styles of typefaces and their appropriate use. • Students review samples of type styles and faces from phototypesetter samples.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9	Overhead transparency of 6 type styles	12	
NUMBERS	Graphic Arts	13	16
APPLICATION C 2			
PHYSICAL D 1a,c,b,d 2a			

COMMON CLUSTER TASKS

Code: GCM- CT03 TASK: Select type faces and styles

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Old style Modern style Sans serif Cursive style Occasional style Text style Upper and lower case letters Punctuation marks	Type face sizes are measured in points. Review and understand the printer's measurement system of points, picas, etc.	• Review pp. 24-26 with the student. • The student will be reviewing type face style books for the purpose of realizing the vast numbers of different type faces available. • Be careful in using words with multiple meanings so that partially sighted or deaf students form the correct concept. • Drill deaf student extensively on language of the task.

Supportive Instructional Materials:

Graphic Arts

COMMON CLUSTER TASKS

TASK: Fit copy

Code: GCM - CT04

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. determine whether or not a given amount of copy will fit a certain area by: a. computing the vertical space required b. computing the horizontal space required c. computing the element space required. 2. demonstrate the procedure for copy-fitting a line of display type. 3. demonstrate the procedure for copy-fitting body or text type. 4. demonstrate the procedure for leading between lines	• Teacher leads small group demonstration of copyfitting procedures. • Students use and study line gauge. • Students review copyfitting procedures as outlined in text and teacher prepared handout. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9 NUMBERS B 2b,4a,5,6 APPLICATION C 5,8 PHYSICAL D 1a,b,c,d 2a	Photo-Offset Fundamentals pp. 29-30 Handout sheet (teacher-prepared)	13	18

COMMON CLUSTER TASKS

Code: GCM - [illegible]104 TASK: Fit copy

Basic Information for Cooperative Teaching		
Language of the Task	**Quantitative Concepts**	**Suggestions:**
Characters Pica Line Copy Text Body Notations Ascender Descender Leading Copy fit	Contact the graphic arts teacher to determine the length of copy lines and the number or characters per inch that the students will be working with. Then together design problems that will help the student figure appropriate copy. (For example, find the average number of characters per inch, per line, and how many lines per copy space.).	• Informally encourage voluntary buddy system for assisting deaf or partially sighted students (individualize without calling attention to the individual). • Demonstration of correct and incorrect procedures to highlight the importance of correctness.

Supportive Instructional Materials:

COMMON CLUSTER TASKS

TASK: Prepare copy by machine

Code: GCM - CT05

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify an accurate basic definition of the machine copy preparation process. 2. recognize the two basic types of machines for copy preparation: a. hot type b. cold type. 3. recognize the different commercially-made hot type and cold type machines: a. monotype caster b. intertype c. ludlow d. linotype. 4. list the operational procedure for at least one cold type and one hot type machine. 5. demonstrate a degree of skill with two machines in preparing copy by operating specific machines: a. typical cold type machines 1) strike-on machines 2) IBM selectric 3) varityper 4) friden justowriter 5) etc. b. photographic machines 1) fotomatic 2) fotosetter 3) linotron 4) etc.	• Teacher leads demonstration and discussion of procedures for preparing copy by machine • Students review machine operation manuals, illustrated texts, and charts • Para-professionals provide sustained involvement with students having difficulty with this task • Teacher encourages small peer group cooperation and interaction

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9	Charts	16	
NUMBERS B 1,2	Booklets	14	
APPLICATION C 2,3,5,6	Photo-Offset Fundamentals	13	18
PHYSICAL D 1a,b,c,d 2a, 3c,g			

COMMON CLUSTER TASKS

Code: GCM - CT05 TASK: Prepare copy by machine

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	
Hot type - three dimensional Cold type - two dimensional Photo-setting Monotype caster Linotype and intertype Ludlow IBM selectric Varityper, Friden, IBM, Composer, etc. Photo-Comp typesetter	Review picas/points - total measuring system	• Use pages 56-71 of Photo Offset as a resource for information. • Contact graphic's instructor to determine the "essential" terms for area. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Pictures, charts, transparencies, etc.

COMMON CLUSTER TASKS

TASK: Prepare copy by machine

Code: GCM- CT05

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will c. headlining machines 1) varityper 2) strip printer 3) protype 4) etc.	

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
NUMBERS			
APPLICATION			
PHYSICAL			

COMMON CLUSTER TASKS

Code: GCM - CT05 TASK: Prepare copy by machine

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	

Supportive Instructional Materials:

COMMON CLUSTER TASKS

TASK: Prepare copy by non-machine methods

Code: GCM - CT06

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the different applications for non-machine copy processes.
2. list seven different tools or methods of preparing non-machine copy:
   a. rapidograph
   b. speedball
   c. paper stencils
   d. lettering guides
   e. varigraph
   f. transfers
   g. etc.
3. demonstrate the procedures for using the identified tools and materials for preparing non-machine copy.

Instructional Methods

- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher leads demonstration and discussion of the use of tools and equipment.
- Students identify and label handout sheets illustrating tools and equipment.
- Students view sound/slide program.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
A 2,3,9	Teacher made handout	16	
NUMBERS	Teacher made transparencies	12	
B 2,4a,i	Photo Offset Fundamentals pp. 48-55	13	18
APPLICATION			
C 2,3,5	"Tools of the Graphic Arts" Part 1	4	22
PHYSICAL			
D 1a,b,c,d 2a 3c,g			

COMMON CLUSTER TASKS

Code: GCM - CT06 TASK: Prepare copy by non-machine methods

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Rapidograph Speedball Paper stencils Lettering guide Varigraph Transfer letters Hand drawn Free hand Guide lines Stencils	Design a problem to fit the method being used. Contact graphic arts instructor for this information.	• This equipment is illustrated on pages 48-55 of Photo-Offset Fundamentals. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Photo-Offset Fundamentals by McKnight and McKnight

COMMON CLUSTER TASKS

TASK: Design and produce layouts

Code: GCM - CT07

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the different types of layouts used in the graphic arts industry. 2. recognize and employ the various principles inherent in quality design. 3. design and employ different type styles and sizes. 4. demonstrate the proper use of common layout tools. 5. exhibit a basic level of competency for copy balance. 6. exhibit a basic level of competency for lettering.

Instructional Methods

- Teacher demonstration of comprehensive layout processes and techniques.
- Students design and prepare individual layouts using old layout and dummy sheets.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9	"Layout and Design"	13	27
NUMBERS B 2a,b,4a,5,6	Photo Offset Fundamentals Chapter 4	13	18
APPLICATION C 5,6			
PHYSICAL D 1a,b,c,d 2a			

COMMON CLUSTER TASKS

Code: GCM - CT07. TASK: Design and produce layouts

Basic Information for Cooperative Teaching

Language of the Task

Job
Dummy
Roughs
Designs
Finished layout
Paste-ups
Photostatic copy
Proofs
Type face
Tracing
Soft lead pencil
Line gauge
Drawing board
T-square
Triangle
Colored pencils
Paper cement
Type face samples

Quantitative Concepts

Recognize type sizes

Determine appropriate margin sizes

Measure and adjust spacing on a simple layout

Suggestions:

- Organize a field trip to a newspaper print shop and/or an advertising firm to view the different procedure for layout (see graphic arts teacher).

Supportive Instructional Materials:

Tools from graphic's department to learn and identify
Roughs - comprehensive layout - finished layout examples from graphics art department
Magazines, newspapers

COMMON CLUSTER TASKS

TASK: Proofread copy

Code: GCM - CT08

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		
		✓		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the roles of the "reader" and the "marker" in proofreading. 2. recognize and use the correct proof-reader's marks for proofreading of: a. size and style of type b. position c. spacing d. insertion and deletion e. paragraphing f. punctuation g. miscellaneous.	• Students proofread materials to one another with one person functioning as a reader and the other as the proofer. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,8,9 NUMBERS B 1,2,4a,i APPLICATION C 3,8 PHYSICAL D 1a,c 2a,3c	materials to be proofread	1	

COMMON CLUSTER TASKS

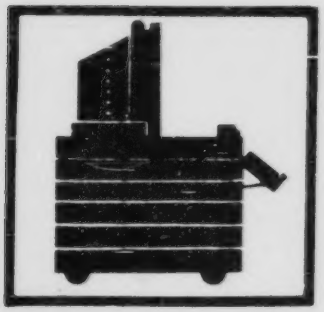
Code: GCM - CT08 TASK: Proofread copy

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
See graphic arts teacher to determine the most essential marks for proofreading		• The student can use proofs of type he has set for this lesson. When reading proof, the student should be taught to look at each letter and word comparing them with the original copy. It is helpful if the student has a good background in English, but not essential. If the student has good copy he can compare his proof successfully with the copy. Remember look at each word. Some people make the mistake of just reading the sentence and overlook misspelled words.

Supportive Instructional Materials:

Graphic Arts by Carlsen

BOOKBINDING



INSTRUCTIONAL TASK MODULES

BB01 Identify the parts of a book

BB02 Identify common and special bookbinding handtools

BB03 Assemble various kinds of folds

BB04 Determine grain direction in paper

BB05 Operate a mechanical folder

BB06 Perform assembling procedures

BB07 Bind a case bound book

BB08 Perform perfect binding

BB09 Complete various book repairs

BB10 Operate stitching machine

BB11 Perform perforating by letterpress

BB12 Perform perforating by offset press

BB13 Perform perforating by special machine

BB14 Side stitch bindings

BB15 Saddle stitch bindings

BB16 Drill paper

BB17 Laminate bindings

BB18 Package products and materials

BB19 Bind pads of paper

BB20 Recognize specific characteristics of paper stocks

BB21 Cut paper

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Identify the parts of a book

Code: GCM - BB01

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. list and describe the contents of the major sections of a book:
   a. title page
   b. copy
   c. table of contents
   d. text (body)
   e. appendix
   f. bibliography
   g. glossary
   h. index.

2. describe the general purpose or need for the binding of pages for the reader.

3. suggest several treatment factors which influence the durability and life of a book.

4. identify eight structural parts of a book:
   a. back
   b. fore edge
   c. head
   d. tail
   e. headband
   f. case
   g. hinges
   h. signatures
   i. end papers.

Instructional Methods

- Students review illustrated text materials and transparency.
- Students assemble, label, and prepare a display illustrating the different parts of a book.
- Students view film loop.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 9	"The Parts of Books"	8	3
NUMBERS B 1	"Parts of a Book" GA12	12	12
APPLICATION C 2	Graphic Arts Chapter 7 Page 83-93	13	16
PHYSICAL D 1a,d 2a			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB01 TASK: Identify the parts of a book

Basic Information for Cooperative Teaching		
Language of the Task		Quantitative Concepts
Signature binding	Headband	Use of ruler in measuring page sizes and paper
Signature	Case	Division for efficient use of paper
Title page	Hinges	
Copyright	End papers	
Table of contents		
Text		
Appendix		
Bibliography		
Glossary		
Index		
Back		
Fore edge		
Head		
Tail		

Suggestions:

- Look at, feel, open, close, discuss books, then pick out signature bound books from others
- Work with samples standard stock paper to observe size, grades, colors.
- Fold and measure stock paper to determine most efficient cut to meet a variety of page sizes.
- Learning to "identify" book parts, tools, etc. will get very monotonous unless combined with some activity that will prepare the student for actual work!

Supportive Instructional Materials:

Book samples including variety of sizes of signature bound books
Standard stock paper
Guide and samples of most popular page measurements
Graphic Arts (pg. 83-93)

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Identify common and special bookbinding handtools

Code: GCM - BB02

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and demonstrate the use of the basic handtools used in bookbinding: a. straightedge b. awl c. backsaw d. chisel e. needles f. hole punch g. scissors h. glue brush i. carpenter's square. 2. identify and demonstrate the use of special tools used in bookbinding: a. bone folders b. backing boards c. backing hammer d. jaspering tools e. band nipper f. bevel knife. 3. identify the component parts of an demonstrate the procedures for operating specific pieces of equipment for bookbinding: a. stitching frame b. plough c. lying press d. standing press e. finishing press. 4. identify and describe the application of selected materials for bookbinding: a. book cloth (multicolored/multisized) b. mull c. headband material d. backing paper e. paste and glue f. twine g. book tapes (cotton or linen) h. binder's board i. linen thread.	• Teacher organizes and distributes hand out sheets showing pictures of various handtools. • Students name and write identification labels for tools illustrated on hand out sheets. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 9	Handout sheets	17	
NUMBERS B 2	The Binding of Books Chapter 3	13	18
APPLICATION C 2			
PHYSICAL D 1a,d 2a			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB02 TASK: Identify common and special bookbinding handtools

Basic Information for Cooperative Teaching

Language of the Task

Straightedge
Awl
Chisel
Needles
Hole punch
Scissors
Glue brush
Carpenter's square
Bone folders
Backing board
Backing hammer
Jaspering tools
Band nipper
Bevel knife
Stitching frame
Plough
Lying press
Standing press
Finishing press
Book cloth
Mull
Head band material
Backing paper
Paste & glue
Twine
Book tape
Binder's board
Linen thread

Quantitative Concepts

Use of ruler in measuring stock paper and page sizes

Practice division in determining efficient cutting lines

Work practical problems determining amounts of paper needed for different size and number of page
— requires a basic knowledge of addition, subtracting, division and multiplication

Suggestions:

- Field trip to see actual tools being used in real situation
- Use stock paper and straightedge to draw efficient cutting lines for a variety of page sizes.
- Observe the "waste" paper on drawing — consider the possible use of waste.
- Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
- Teacher and deaf student should cooperatively develop some simple related to language of the task.
- Drill deaf student extensively on language of the task.

Supportive Instructional Materials:

Kits of labeled tools (from the Vocational Graphic Arts Department)
The Binding of Books, chapter 3, for reference

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Assemble various kinds of folds

Code: GCM - BB03

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the different types of standard folds: a. parallel folds b. right angle folds c. accordian folds. 2. prepare the standard folds with each of the following applications: a. four page folder - one fold b. six page folder - two parallel folds c. eight page folder - one parallel and one right angbe fold d. sixteen page folder - one parallel and two right angle folds.	• Teacher provides small group demonstration of folding procedures of each type of fold. • Students prepare and label samples of each type of fold. • Students follow a teacher demonstration with "hands-on" supervision. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 9 NUMBERS B 1,2,4a,5,6 APPLICATION C 2,5,7 PHYSICAL D 1a,d,2a/b, 3 c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB03 TASK: Assemble various kinds of folds

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Use waste pieces of paper to practice the folds: parallel right angle accordian • Use stock paper fold into 1/2's, 1/4's, 1/3's to see if math work is correct
Parallel Right angle Accordian	Practice accuracy of counting Learn how to construct a right angle fold, measure with protractor the degrees of a right angle Determine parallel folds by measuring Use stock paper divide paper into 1/2's, 1/4's, 1/3's, measure size of pages after folds are made	

Supportive Instructional Materials:

Scrap pieces of paper
Stock sizes of paper

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Determine grain direction in paper

Code: GCM - BB04

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. determine the grain direction of various types of paper by employing: a. tear test b. fold test c. moisture test.	• Teacher provides small group demonstration of tear, fold, and moisture tests. • Students view films on paper making processes. • Teacher matches successful students who are interested in helping those having difficulty. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7	"The Paper Forest"	8	23
NUMBERS	"Paper and Pulp Making"	8	25
APPLICATION C 5			
PHYSICAL D 1a,d 2a/b			

SUBCLUSTER: BOOKBINDING

Code: GCM - BBQ4 TASK: Determine grain direction in paper

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
Grain		

Supportive Instructional Materials:

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Operate a mechanical folder

Code: GCM - BB05

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the component parts of a tape and knife folder and a buckle folder
2. demonstrate the procedures for safely operating:
   a. tape and knife folder
   b. buckle folder
3. recognize and observe specific safety precautions related to the operation of mechanical folding machines

Instructional Methods

- Teacher directs small group demonstration of safe folder operation.
- Students label parts of the folder illustrated on handout sheets.
- Students review illustrated operator's manual for the available equipment.
- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher concentrates his efforts with students having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9 NUMBERS B 2b APPLICATION C 2,7 PHYSICAL D 1a,c,d,e 2a/b 3a,c,f,g	Teacher prepared handout sheet	14	
	Baum Folder manual	14	

SUBCLUSTER: BOOKBINDING

Code: GCM - BB05 TASK: Operate a mechanical folder

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Tape and knife folder Buckel folder		• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task • This task may be particularly appropriate for deaf student • Field trip to observe folders in operation, discuss the need for safety and possible consequence of carelessness

Supportive Instructional Materials:

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Perform assembling procedures

Code: GCM - BB06

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the component parts and describe the operation of collating racks and bundling presses. 2. bundle (compact) the signatures of a book for binding by hand and power processes. 3. tip the signatures of a book for binding by hand and machine processes. 4. gather the book signatures in sequence for binding through the use of manual, circular, and automated processes. 5. insert the sections or signatures by placing them within sections for binding. 6. collate the individual book leaves for binding by manual, semi-automatic, and fully automatic processes.

Instructional Methods

- Teacher matches successful students who are interested in helping those having difficulty.
- Teacher provides small group demonstration of assembling methods and procedures.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,9 NUMBERS B 1,2 APPLICATION C 5,7 PHYSICAL D 1a,b,d,e 2b 3a,c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB06 TASK: Perform assembling procedures

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Collating or gathering Collator Ream	Count paper by 5's, 10's, 15's, 20's	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs. • This task may be particularly appropriate for deaf student. • Note: Student may be unable to multiply and still be able to count out a definite number of piles of 5, 10, 15, 20, etc. He will arrive at the amount someone else has determined through multiplication.

Supportive Instructional Materials:

Ream of paper to practice counting

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Bind a case bound book

Code: GCM - BB07

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. select and identify the equipment and tools needed for case binding. 2. follow a prescribed procedure for case binding a book: a. prepare the signatures b. press the signatures c. sew the signatures d. add end papers e. glue the book f. round the back g. prepare the spine h. make the case i. case the book j. decorate the case.	• Teacher provides small group demonstration of case binding procedures. • Students review transparencies and other illustrated materials. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9 NUMBERS B 1,2b,4a APPLICATION C 2,5,8 PHYSICAL B 1a,c,d,e,f 2b 3a,c,f,g	Graphic Arts pp. 83-93	13	16
	"Parts of a Case Bound Book" GA34	12	12
	"Sewn Binding Methods" GA34	12	12

SUBCLUSTER: BOOKBINDING

Code: GCM - BB07 TASK: Bind a case bound book

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Hands-on experience with unfinished book showing steps. Observation of completed book to see effects of total process.
Case bound Signature Kerfs Sewing frame Padding compound Super Spine	Use of ruler in measuring	

Supportive Instructional Materials:

Graphic Arts pg. 84 Fig. 7-19
pg. 85 Fig. 7-23
pg. 88 Fig. 7-34

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Perform perfect binding

Code: GCM - BB08

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. follow a prescribed procedure for producing a perfect binding: a. fold required number of signatures and clamp in lying press b. remove paper from back with jaspering tool c. apply coat of glue to the edge and add a strip of super d. apply more glue e. apply paper cover for hinge f. trim the book on the fore edge, head, and tail.	• Teacher provides small group demonstration of perfect binding procedures. • Students follow a teacher demonstration with "hands-on" supervision. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,9 NUMBERS B 1, 4a APPLICATION C 2,5,8 PHYSICAL D 1a,c,d,f 2a/b 3c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB08 TASK: Perform perfect binding

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Keep instruction relative to work in the "shop" • Compare a hap-hazard collection of books with those in the kit that are labeled from the graphics department.
Perfect binding	Work on area of greatest need: measuring fractional division	

Supportive Instructional Materials:

Collection of books with variety of bindings

SUBCLUSTER: BOOKBINDING

TASK: Complete various book repairs

Code: GCM - BB09

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. follow specific procedures in performing the following book repairs: a. cleaning b. mending c. adding end papers d. reglueing backs e. adding super strips f. replacing the case g. replacing covers h. preparing a hollow back i. retitling j. decorating.	• Teacher matches successful students who are interested in helping those having difficulty. • Teacher provides small group demonstration of specific book repairs. • Students view movie on bookbinding and illustrated materials. • Students follow a teacher demonstration with "hands-on" supervision.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,9	"The Art of Binding"	8	9
NUMBERS B 2b,4a,5,6	The Binding of Books Chapter 15	13	18
APPLICATION C 2,5,8			
PHYSICAL			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB09 TASK: Complete various book repairs

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Endsheets Reglue Mend Replace Add Retitle	Reinforce the math concepts relative to the need.	• Observe old books, speculate and discuss the need and nature of repair. • The areas of reinforcement will be relative to the nature of the repair work. Check with the vocational instructor frequently and reinforce the areas of greatest need.

Supportive Instructional Materials:
Collection of books in need of repair

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Operate stitching machine

Code: GCM - BB10

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the component parts of manual and powered stitching machines. 2. follow a prescribed procedure in operating manual and powered stitching machine. 3. adjust the thickness and length of staples needed. 4. recognize and observe specific safety precautions related to the operation and use of stitching machines.	• Students review illustrated text materials and the stitcher manual. • Teacher provides small group demonstration of safe stitching machine operation. • Students follow a teacher demonstration with "hands-on" supervision. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 4,9	Graphic Arts Chapter 7	13	16
NUMBERS B 1,2	"Wire Staple Binding" GA32	12	12
APPLICATION C 5	stitcher manual	14	
PHYSICAL D 1a,c,d,e 2b 3a,c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB10 TASK: Operate stitching machine

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Stitcher Wire Saddle stitch Side stitch	Reinforce math concepts with which students are having trouble in vocational class.	• Help the student with his math. • Keep discussion relative to work on bookbinding. • Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task.

Supportive Instructional Materials:

Graphic Arts
Unfinished book that illustrates this process

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Perform perforating by letterpress

Code: GCM - BB11

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and select the appropriate tools and equipment for perforating by letterpress. 2. recognize and visually identify the two different types of perforation: a. regular b. struck-in. 3. follow a prescribed procedure in setting up and operating a platen press to perform a perforating operation, using a Reaf-A-Base and a below type-high perforation rule.	• Teacher provides small group demonstration of procedures/ techniques for perforating by letterpress. • Student follows a teacher demonstration with "hands-on" supervision. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9 NUMBERS B 2b,4a APPLICATION C 5,8 PHYSICAL D 1a,c,d 2b 3c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB11 TASK: Perform perforating by letterpress

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Perforating Perforating rule Regular Stuck-in Reaf-a-base Type-high		• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Be careful in using words with multiple meanings when talking to lip reading deaf students. • This task may be particularly appropriate for deaf student. • Visit Graphics lab - observe perforating operations • Look at books perforated by different processes - are there differences - are there advantages in time and/or quality - are there disadvantages - can you observe the differences

Supportive Instructional Materials:

Books perforated by letterpress, offset press and special machines

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Perform perforating by offset press

Code: GCM - BB12

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and select the appropriate tools and equipment for perforating by offset press. 2. follow a prescribed procedure in setting-up and operating an offset press to perform a perforating operation: a. locate position for perforation on impression cylinder b. attach perfa tape to impression cylinder c. adjust pressure between cylinders to facilitate acceptable perforation d. prepare press feeder e. prepare press register table f. prepare press delivery system.	• Teacher provides explanation/discussion of tools and necessary equipment. • Teacher provides small group demonstration of procedures/ techniques for perforating by offset press. • Teacher matches successful students who are interested in helping those having difficulty. • Students review perforating set-up procedures in offset press manual.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 2b,4a APPLICATION C 2a,5,8 PHYSICAL D 1a,d 2a/b 3c,f,g	offset press manual	14	

SUBCLUSTER: BOOKBINDING

Code: GCM - BB12 TASK: Perform perforating by offset press

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Discuss reasons for and uses of perforated materials
Perforating Perfatape		

Supportive Instructional Materials:

Examples of perforating performed with offset press

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Perform perforating by special machine

Code: GCM - BB13

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify specific tools and equipment used in perforating by special machine. 2. follow a prescribed procedure in operating special machines to perform struck-in perforating.	• Students review illustrated special machines manuals. • Teacher provides small group demonstration of special methods of perforating. • Students follow a teacher demonstration with "hands-on" supervision.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 2b,4a APPLICATION C 2a,5,8 PHYSICAL D 1a,d 2a/b 3c,f,g	Graphic Arts pg. 50 machine operation manuals	13 14	16

SUBCLUSTER: BOOKBINDING

Code: GCM - BB13 TASK: Perform perforating by special machine

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Perforating machine Rotary perforator Perforate		• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Keep close contact with needs of vocational education teacher • Discuss reasons for perforations

Supportive Instructional Materials:

Examples of work perforating machine does

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Side stitch bindings

Code: GCM - BB14

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and select the specific pieces of equipment and materials needed to prepare a side stitch:
   a. stitching head
   b. needles
   c. stitching thread.

2. side stitch books and related publications following a prescribed procedure for:
   a. assemble sections
   b. place under stitching head
   c. insert stitches.

Instructional Methods

- Students review illustrated text materials and transparency.
- Teacher provides small group demonstration of side stitching procedures.
- Students follow a teacher demonstration with "hands-on" supervision.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9	Graphic Arts pp. 81-83	13	16
NUMBERS B 2b,4a	"Wire Staple and Binding" GA32	12	12
APPLICATION C 2a,5,8			
PHYSICAL D 1a,b,d,e 2a/b 3a,c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB14 TASK: Side stitch bindings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Side stitch Wire Assemble Insert		• Support vocational teacher by discussing work he is doing relative to text pp. 81-83.

Supportive Instructional Materials:

Graphic Arts - pp. 81-83

Examples of side stitching

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Saddle stitch bindings

Code: GCM - BB15

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and select the appropriate tools and equipment for saddle stitching. 2. Saddle stitch book bindings following a prescribed procedure: a. assemble sections b. locate on saddle c. activate stapling head d. remove from saddle.	• Teacher matches successful students who are interested in helping those having difficulty. • Teacher provides small group demonstration of saddle stitching procedures. • Students review illustrated text materials and transparency. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9	Graphic Arts pp. 81-83	13	16
NUMBERS B 2b,4a	"Binding Methods" GA 31	12	12
APPLICATION C 2,5,8			
PHYSICAL D 1a,b,d,e 2b 3a,c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB15 TASK: Saddle stitch bindings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Review pages 81-83 with the student.
Saddle stitch Wire	Provide examples of saddle stitched booklets (stapled) for measuring from top, from bottom, and centering the staples.	

Supportive Instructional Materials:

Graphic Arts

SUBCLUSTER: BOOKBINDING

TASK: Drill paper

Code: GCM - BB16

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the operation of the appropriate tools and equipment for drilling holes in paper. 2. list several applications or uses for drilled paper: a. shipping tags b. spiral notebooks c. notebook fillers. 3. follow a prescribed procedure in setting up and operating a hole drill. 4. recognize and observe specific safety precautions in operating a hole drill.

Instructional Methods

- Students review illustrated text materials and operator's manual procedures.
- Teacher provides small group demonstration of paper drilling procedures and operations.
- Teacher matches successful students who are interested in helping those having difficulty.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS B 2b,4a APPLICATION C 2a, 5,8 PHYSICAL D 1a,c,d,e 2a/b 3a,c,f,g	Graphic Arts pg. 50 Hole drill manual	13 13	16

SUBCLUSTER: BOOKBINDING

Code: GCM - BB16 TASK: Drill paper

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Paper drill Hollow point drill	Measure the location of holes in a standard 8 1/2 x 11 paper from left edge and from top edge. Discuss accuracy to 1/16th of an inch	• Visiting a local printing establishment during production drilling may be appropriate.

Supportive Instructional Materials:

Graphic Arts pg. 50 (for reference only)

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Laminate bindings

CM - BB17

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and select the appropriate tools and equipment for laminating. 2. follow a prescribed procedure for laminating paper stock: a. bond thin film of plastic over page by adhesive or pressure methods.	• Teacher matches successful students who are interested in helping those having difficulty. • Teacher provides small group demonstration of laminating techniques. • Students follow a teacher demonstration with "hands-on" supervision.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,7,9 NUMBERS B 2b,4a APPLICATION C 2,5 PHYSICAL D 1a,c 2a 3c,f,g			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB17 TASK: Laminate bindings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Help students verbalize their activities to enlighten rest of class to that area of involvement.
Laminate Laminating Bond Film	Multiplication: to determine quantities of paper, plastic, etc. needed for 100 bindings as compared to one	

Supportive Instructional Materials:

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Package products and materials

Code: GCM - BB18

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe selected types of packaging materials:
   a. covering materials
   b. filler materials
   c. cushioning materials.
2. recognize several specific packaging requirements for different types of materials:
   a. fragility
   b. heat sensitivity
   c. dangerous materials.
3. follow a prescribed procedure in securing packages by gluing and taping, and mechanical steel banding.
4. identify pre-packaging and post-packaging label information:
   a. pre-packaging labeling
      1) manufacturer
      2) contents
      3) destination
      4) quantity
   b. post-packaging labeling
      1) stamps
      2) stencil marking
      3) hand lettering
      4) preprinted labels.

Instructional Methods

- Students view films to supplement teacher-led demonstration.
- Teacher provides small group demonstration of packaging methods.
- Students prepare displays of various kinds of packages.
- Teacher encourages small peer group cooperation and interaction

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 2,4a,b,5,6 APPLICATION C 1a,b 2,8 PHYSICAL D 1a,c,d 2b 3a,c,f,g	"Packaging Design" "Packaging Practice"	8 8	8 5

SUBCLUSTER: BOOKBINDING

Code: GCM - BB18 TASK: Package products and materials

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Covering Filler Cushioning Fragile Heat sensitive Pre-package Post-package Taping Steel banding Stamps Stencils Hand lettering	Recognize ream (500) sheets 8 1/2" x 11" Tickets (1000) package 2" x 3 1/2" Review and support areas of need: - quantities of packaged materials - calculating amount of postage required for a package	

Supportive Instructional Materials:

Postage rates, charts, types (stamps, permits, metered tape, scales)

SUBCLUSTER: BOOKBINDING

TASK: Bind pads of paper

Code: GCM - BB19

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the use of selected tools and materials in the padding process: a. joggers b. padding compounds c. brush d. knife e. pad counter. 2. follow prescribed set of procedures in preparing and gluing up pads of paper: a. divide sheets into required size stocks b. add weight to pile to compress sheets c. apply padding compound with brush d. add second coat after first dries e. separate pads with knife f. add strip of super after first coat if more strength desired g. use of padding press.	• Students view movies on the paper industry. • Teacher provides small group demonstration of padding procedures. • Students review booklets on the paper industry and illustrated text materials on padding. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 6,9	"The Forests About Us"	8	7
NUMBERS B 2,4a	"Let's Go to a Paper Mill"	13	2
APPLICATION	Graphic Arts pg.80	13	16
PHYSICAL			

SUBCLUSTER: BOOKBINDING

Code: GCM - BB19 TASK: Bind pads of paper

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Students bring in variety of pads and discuss using the waste of one job for the "pads". Discuss margin of profit.
Padding Padding compound Padding rack Jog Chipboard Trim	Reinforce measuring thickness, length, and width of pads with ruler (i.e. pads, 1/4" x 4 1/4"x 5 1/2"; 1/2" x 8 1/2" x 11"; 3/4" x 5 1/2" x 8 1/2")	

Supportive Instructional Materials:

Graphic Arts pg. 80

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Recognize specific characteristics of paper stocks

Code: GCM - BB20

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify specific weights, sizes, types, and colors of selected papers:
   a. weight
   b. size
   c. types
      1) bond
      2) cover
      3) index
      4) card stock
      5) wrapping
      6) newsprint
      7) etc.
2. identify the number of sheets in a ream and a mill.
3. identify specific stock specifications for envelopes.
4. identify specific stocks commonly used for letterheads.
5. identify specific stocks commonly used for tickets and cards.
6. measure stock thicknesses with a paper micrometer.

Instructional Methods

- Teacher provides demonstration of using the paper micrometer.
- Teacher provides discussion and demonstration of paper stock characteristics.
- Students assemble and prepare a display of different paper stocks.
- Students practice using paper micrometer making sample measurements.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9	Display	16	
NUMBERS B 2,4a,b	Graphic Arts pg. 58	13	16
APPLICATION C 2,8	"Paper and Pulp Making"	8	25
PHYSICAL D 1a,c,f 2a, 3c	paper micrometer	1	

SUBCLUSTER: BOOKBINDING

Code: GCM - BB20 TASK: Recognize specific characteristics of paper stock

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Bond Cover Index Newsprint Ream Weight	Measure and discuss standard paper sizes Observe, feel, discuss common weights of paper (pg. 58 of text) Examples: 70#, 60#, 50# - offset 20#, 16#, 24# - bond 90#, 110#, 140# - index Check with vocational teacher when working with weights and size	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • This task may be particularly appropriate for deaf student.

Supportive Instructional Materials:

Collect from the vocational instructor a ream of each weight of paper labeled with uses of paper

Text: Graphic Arts, Chapter 13

SUBCLUSTER: BOOKBINDING

Sheet 1 of 1

TASK: Cut paper

Code: GCM - BB21

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. accurately figure paper cuts prior to cutting. 2. demonstrate proper and safe operation of paper cutters: a. hand paper trimmer b. power paper trimmer c. bench trimmer operation. 3. recognize and observe specific safety precautions for operating paper cutters. 4. suggest procedures for proper care and maintenance of paper cutters.

Instructional Methods

- Teacher provides small group demonstration of the safe operation of each type of paper cutter.
- Students review illustrated text materials and cutter manuals.
- Teacher leads chalkboard discussion in figuring several examples of common and difficult paper cutting procedures.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 6,9 NUMBERS B 2 APPLICATION C 2,7 PHYSICAL D 1a,c 2b 3c,g	Graphic Arts pg. 58-59 cutter manual	13 14	16

SUBCLUSTER: BOOKBINDING

Code: GCM - BB21 TASK: Cut paper

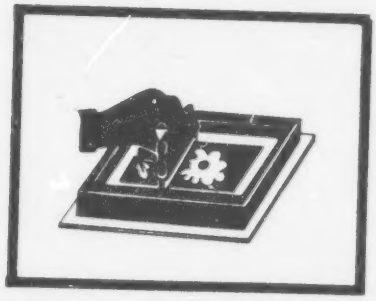
Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Paper cutter Trim Ream Jogged Knife blade Clamp	Measure pieces of paper cut to standard sizes, i.e. 5 1/2" x 8 1/2", 8 1/2" x 11", 17" x 22" etc. Divide paper stock into pre-determined standard sizes, giving special attention to economy. Example: One 17" x 22" sheet cut in half provides two 8 1/2" x 11" sheets. One 8 1/2" x 11" sheet cut in half provides two 5 1/2" x 8 1/2" sheets, etc.	• Discuss need for observing proper procedures and concern for others when using cutter. • Ask graphics instructor for sheets of paper stock of standard size.

Supportive Instructional Materials:

Graphic Arts

Collect from vocational instructor samples of standard sizes of paper

SCREEN PRINTING



INSTRUCTIONAL TASK MODULES

SP01 Prepare copy for screen printing

SP02 Prepare stencils

SP03 Prepare stencils by indirect methods

SP04 Block out screens

SP05 Apply flock and surface substances

SP06 Set-up for multi-copy printing

SUBCLUSTER: SCREEN PRINTING

Sheet 1 of 1

TASK: Prepare copy for screen printing

Code: GCM - SP01

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate specific methods of copy preparation for: a. photographs b. clippings c. artwork d. drawings e. lettering f. ink reproductions. 2. select the appropriate paper for the specific type of copy.	• Teacher leads small group demonstration of procedures and techniques of copy preparation. • Students view film following introduction by instructor. • Students review illustrated text materials. • Teacher supplies students with a miscellaneous assortment of silk screen prints to look over and discuss — both good and bad points. Note: See task sheets CT01-CT08 for more background on copy preparation.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,6,9 NUMBERS B 4a APPLICATION C 2a, 5 PHYSICAL D 1a,b,d 2a 3c,g	"Seriography - Methods and Techniques of Guy MacCoy" Graphic Arts Chapter 6 Silk Screen Printing	8 13 13	10 16 24

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SP01 TASK: Prepare copy for screen printing

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Take a walking tour of a business district and pick out silk screened advertisements and posters. Discuss screen cutting problems and techniques.
Screen silk organdy nylon mesh copper bronze stainless steel Rubber squeegee Ink plastic decal Hand cut Photographic screen indirect photo direct photo	Recognize appropriate size relationships for layout. Recognize lines that are parallel and lines that are vertical and horizontal to the edge of the design.	

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: SCREEN PRINTING

TASK: Prepare stencils

Code: GCM - SP02

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. prepare a stencil for a screen process by the direct photographic method a. stencil design b. purpose c. chemical d. procedure. 2. prepare a stencil for a screen process by the direct non-photographic method: a. stencil design b. purpose c. chemical d. procedure.	• Students view film and review illustrated text materials. • Students watch demonstration of techniques by teacher or someone "on-the-job". • Teacher checks individual student's work on a practice stencil before proceeding to actual stencil work.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6 NUMBERS B 4a APPLICATION C 2a,5 PHYSICAL D 1a,b,c,d,f 2a 3c,g	"Stencil Cutting"	9	1
	Graphic Arts Chapter 6	13	16
	"Silkscreen"	8	19
	Fundamentals of Silk Screen Process	13	17

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SP02 TASK: Prepare stencils

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Film Stencil knife Masking tape Stencil Backing sheet Register guide Register mark Masking tape Mask out	Estimate 2" and 1/2". Measure accurately to 1/4".	• Bring in resource person who can correctly demonstrate the procedures. If possible, let it be on an exploratory or experimental stencil so the students can attempt this delicate operation. • Have students accurately trace images as a preparation for cutting stencils.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER SCREEN PRINTING

Sheet 1 of 1

TASK: Prepare stencils by indirect methods

Code: GCM - SP03

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. prepare on a stencil for a screen process printing by the indirect photographic method, following a prescribed procedure: a. sensitizing b. exposing c. adhering to screen. 2. observe safety precautions for handling chemicals. 3. describe the various applications of stencils produced by indirect methods.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher leads demonstration of techniques for preparing stencils by indirect methods. • Students view filmstrip and illustrated text. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS	Graphic Arts Chapter 6	13	16
	"Silkscreen Printing"	10	20
APPLICATION C 2a,5,8 PHYSICAL D 1a,d 2a/b 3c,g			

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SP03 TASK: Prepare stencils by indirect methods

Basic Information for Cooperative Teaching

Language of the Task

Indirect
Line border
Positive (photographic)
Film (transfer)
Sensitizer
Camel's hair brush
Darkroom
Amber color bottle
Electric fan
Printing frame
Clamp
Expose
Photo flood lamp
Opaque
Block-out filler
Kerosene
Fine mesh silk
metal

Check with vocational graphics teacher to learn commercial brands being used and obtain manufacturer's vocabulary.

Quantitative Concepts

Measure and visually estimate
2"-3" — width of brush or margin measurement

12"-18" — distance of photo light from image

Recognize time variance relative to light intensity — 1 1/2-3 minutes.

Become sensitive to warm water — 100°-115°F, check with thermometer.

Suggestions:

- Check with vocational graphics teacher to work out distance, time, light intensity formula or film manufacturer's exposure table.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: SCREEN PRINTING

TASK: Block out screens

Code: GCM - SP04

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. select different types of blockout materials. 2. cut a paper frisket for a specific shaped block out area, following a prescribed procedure. 3. spread and apply liquid blockouts, following a prescribed procedure for brushing, squeeze spreading, spraying, and cutting.

Instructional Methods

- Teacher encourages small peer group cooperation and interaction.
- Teacher leads demonstration of techniques/procedures for blocking out screens.
- Students practice blocking out different shapes and areas on a dummy screen.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,9 NUMBERS APPLICATION C 2a,5,8 PHYSICAL D 1a,c,d,f 2a/b 3c,g	Graphic Arts Chapter 6	13	16

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SPQ4 TASK: Block out screens

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Check with vocational graphic arts teacher to determine the particular trade names of the materials being used. Add these names to the language of the task, because these materials will usually be referred to by that name.
Blockout material Paper Glue Shellac Lacquer Photographic Emulsion Frisket		

Supportive Instructional Materials:

SUBCLUSTER: SCREEN PRINTING

Sheet 1 of 1

TASK: Apply flock and surface substances

Code: GCM - SP05

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
			/	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the use of specific pieces of equipment used in flocking: a. flocking gun b. flock c. mounted screen frame d. flock adhesive e. flocking/spraying booth. 2. follow a prescribed procedure in applying flock to textiles: a. use of a booth b. operating gun c. angle of spray d. excess flock. 3. follow a prescribed procedure in applying selected surface treatments to textiles: a. hair b. spangles c. beads d. glitter.

Instructional Methods

- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher leads demonstration of procedures/techniques for using flocking in screen printing.
- Students collect and display samples of surface substances used in screen printing.
- Teacher makes contact with each student during the class period.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,9 NUMBERS B 2 APPLICATION C 2,5,8 PHYSICAL D 1a,b,c 2a/b 3c,g			

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SP05 TASK: Apply flock and surface substances

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Flocking Flocking adhesive Hair Spangles Beads Glitter	See vocational graphics instructor to see if there are any needs other than to match numbers for correct color, etc.	

Supportive Instructional Materials:

SUBCLUSTER: SCREEN PRINTING

Sheet 1 of 1

TASK: Set-up for multicopy printing

Code: GCM - SP06

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. set-up basic jigs, guides, and equipment to produce multicopy prints by the silk screen process performing: a. fitting b. registering c. setting guides and jigs d. setting semiautomatic devises.	• Students review Job 2 in workbook. • Teacher makes contact with each student during the class period. • Teacher leads small group demonstration of short cuts and procedures to multiple printing. • Students work in teams of two setting up and running multicopy screen printing jobs.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS APPLICATION C 2a,5,8 PHYSICAL D 1a,b,d 2a/b 3c,g	"Fundamentals of Silk Screen Process" Job 2	13	17

SUBCLUSTER: SCREEN PRINTING

Code: GCM - SP06 TASK: Set-up for multicopy printing

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Multicolor Fitting Registering Transparent paper Blank stock Register guides Center Mask Register marks Proof print Solvent adhering film	Demonstrate the need for using three register guides—properly placed. Recognize the proportion 1 to 1 (1/2 glue to 1/2 water)	

Supportive Instructional Materials:

OFFSET LITHOGRAPHY

INSTRUCTIONAL TASK MODULES

OL01 Perform paste-up

OL02 Perform darkroom procedures

OL03 Operate darkroom equipment

OL04 Operate copy camera

OL05 Prepare a line negative

OL06 Prepare a halftone

OL07 Prepare a halftone using a contact screen

OL08 Prepare and strip-up a flat

OL09 Strip-up flats by selected techniques

OL10 Complete imposition work

OL11 Prepare an offset plate

OL12 Load, operate, and unload offset presses

SUBCLUSTER: OFFSET LITHOGRAPHY

TASK: Perform paste-up

Code: GCM - OL01

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the function or nature of the paste-up process. 2. select and use the appropriate tools and materials for paste-up: a. drawing board b. T-square c. triangles d. scissors e. print trimmer f. rubber cement g. wax h. wax coating machine i. exacto knife j. ruling k. India ink l. snopake m. acetate overlays n. light table o. blakeout. 3. demonstrate a degree of skill in following a basic procedure in pasting-up copy: a. draw trim size marks on illustration board b. draw printed page size marks on paste-up c. draw in image lines for locating paste-up. 4. clean, maintain, and repair paste-up tools.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher leads small group demonstration of procedures for using paste-up tools and equipment and performing paste-up. • Students view sound/filmstrip and illustrated materials. • Students use tools and equipment in performing actual paste-up of simple jobs using dummy paste-up sheet.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,6,9	Teacher-made mock-up	2	
NUMBERS B 2,4a,e	"Fundamentals of Layout and Design" (2 parts)	5	22
APPLICATION C 2,5,8	"Introduction to Graphic Design"	4	22
PHYSICAL D 1a,b,c,d 2a,b 3c,g	"Laying Out a Flat" GA-21	12	12

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM · OL01 TASK: Perform paste-up

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Trim size marks Gripper margin Image area Image lines Bleed Drawing board T-square Triangles Ruling pen India ink Rubber cement Wax coating machine Print trimmer Exacto knife	Relate inch rule to pica measurement, i.e. 6 picas per inch Measure the angles of the T-square with a protractor

Suggestions:

- The student should be familiar with the line gauge (printer's rule), both the inch and pica measurement. Check the student's ability to read fractions on the rule.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).
- Illustrations and information can be found on pages 46-53 of text, Photo Offset Fundamentals.
- Students handle and observe the tools and equipment, while verbally discussing the names and uses of each.

Supportive Instructional Materials:

Photo Offset Fundamentals
Collection of labeled tools and information

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Perform darkroom procedures

Code: GCM - OL02

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. recognize the different types of standard darkroom procedures: a. preparation b. organization c. cleanliness d. protection. 2. demonstrate the following basic darkroom procedures: a. prepare chemicals and place in proper containers b. place developing trays in sequence c. maintain continual agitation in developing trays d. keep dust and dirt from accumulating e. keep skin away f. seal light-sensitive materials from light.

Instructional Methods

- Students tour darkroom and instructor discusses general function and operation of equipment.
- Teacher leads class discussion of photography processes and procedures occurring in the darkroom.
- Students review illustrated text and handout materials.
- Students view sound/slide program.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9	Handout sheets	16	
	"Line Photography"	4	
NUMBERS B 2,4a,b,c,d	Photo Offset Fundamentals Chapter 11	13	18
APPLICATION C 2,3,5,7			
PHYSICAL D 1a,c,d,f 2b,3a,c,g			

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM- OL02 TASK: Perform darkroom procedures

Basic Information for Cooperative Teaching

Language of the Task

Developer

Stop bath

Fix

Safe light

Process camera

Negative

Gray scale

Graduate

Rinse

Negative

Dryer

Quantitative Concepts

Measure precise quantities of liquid using graduated flasks: oz., pt., qt., gallon

Determine the number of: pints in a quart, quarts in a gallon, ounces in a quart, by actually using graduates and liquids

Learn meaning of the following ratios and proportions: 3 to 1—3 parts water, 12 oz. of water to 1 part developer (12:1 ratio), 4 oz. of chemical equal to 16 oz. of water (4:1 ratio)

Check with vocational education teacher for other often used proportions

Suggestions:

- Give student opportunity to study Chapter 11 and help that student interpret the lesson.
- Stress importance of cleanliness, keeping materials organized, and keeping jars and bottles tightly sealed.
- Teacher and deaf student should cooperatively develop some simple signs.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Photo Offset Fundamentals by McKnight and McKnight
Graduates, variety of sizes

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Operate darkroom equipment

Code: GCM - OL03

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the different pieces of equipment found in a darkroom: a. basic camera b. electrical outlets (receptacles) c. exhaust fan d. temperature control sink e. thermometer and timer f. safelights g. contact vacuum frame h. enlarger i. dryer. 2. demonstrate a degree of skill in operating darkroom equipment (camera discussed in OL04). 3. provide care and basic maintenance for darkroom equipment.	• Teacher leads small group discussions of procedures for operating darkroom equipment. • Student label parts of camera illustrated on handout sheets. • Teacher matches successful students who are interested in helping those having difficulty. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9	Handout sheets	16	
NUMBERS B 2,4a,b,c,d	"Horizontal Process Camera"	12	12
APPLICATION C 2,3,5,7			
PHYSICAL D 1a,c,d,f 2b,3a.c.g			

SUBCLUSTER: [illegible]ET LITHOGRAPHY

Code: GCM - 0L03 TASK: Operate darkroom equipment

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Exposure	Accurate measurement of time - minutes and half minutes in seconds, etc.	• It is necessary to work closely with the graphics teacher so that the cooperative instruction be relative to the need. Timing of supportive help is very important.
F Stop	Interpret meaning of lens (f Stop) adjustment in relation to light	• Cleanliness is important in the darkroom.
Reduction		
Enlargement	See graphics teacher to identify necessary timer settings	
Flash	Measuring and cutting of film	
Timer		
Percentage wheel	Interpret percentages chart for enlargement and reduction of pictures - see graphics instructor	

Supportive Instructional Materials:

Photo-Offset Fundamentals by McKnight and McKnight
Percentage chart
Stop watch

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Operate copy camera

Code: GCM - OL04

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the two main types of copy camera:
   a. vertical
   b. horizontal.

2. list the component parts of the copy camera:
   a. lighting system
   b. copy board
   c. lens
   d. bellows
   e. camera back
   f. viewer
   g. stops.

3. describe the function and basic operation of the camera parts.

4. follow a prescribed procedure in setting up and operating a copy camera:
   a. centering
   b. set diaphragm
   c. adjust tapes
   d. position ground glass
   e. open shutter
   f. center copy board
   g. center film on camera back
   h. activate vacuum
   i. close camera back
   j. set exposure time.

5. follow the camera manufacturer's specifications for cleaning and maintenance of camera.

Instructional Methods

- Teacher demonstration of camera operation procedures.
- Students role play or return demonstration of camera operation procedures.
- Students review illustrated text materials.
- Teacher matches successful students who are interested in helping those having difficulty.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9	"Enlarging and Reduction" GA9	12	12
NUMBERS B 2,4a,d,5,6	"Enlarging and Reduction Scale" GA10	12	12
APPLICATION C 2,5,8	"Aperture" GA18	12	12
PHYSICAL D 1a,c,d 2b 3a,c,g	Photo Offset Fundamentals Chapter 8	13	18

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL04 TASK: Operate copy camera

Basic Information for Cooperative Teaching

Language of the Task

Vertical camera

Horizontal camera

Copy board

Lens

Bellows

Camera back or vacuum back

F Stop

Quantitative Concepts

Construct vertical and horizontal lines

Read F Stops (amount of lens opening)
Large openings-small numbers
Small openings-large numbers

Determining and setting shutter speeds of litho camera: 20 secs., 1 min., 2 1/2 min.

Accurately match numbers to a gauge guide for focus

Suggestions:

- It is essential that there be close communication with graphics teacher so that supportive instruction can be relative to the students' needs in completing this task.

Supportive Instructional Materials:

Photo Offset Fundamentals by McKnight and McKnight
Camera and/or mock-ups that are labeled

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Prepare a line negative

Code: GCM - OLQ5

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the uses of line negatives. 2. name several check list items to look for in inspecting copy. 3. demonstrate the procedures for placing copy on copy board. 4. demonstrate the procedures for adjusting all copy camera settings for a line negative: a. lens settings b. filters c. lighting devices d. tape settings e. focusing. 5. demonstrate the procedures for loading the copy camera. 6. list and suggest criteria for selecting specific exposure times. 7. remove and develop exposed film from copy camera. 8. list criteria to be observed or checked in inspecting line negatives: a. overexposure b. cleanliness c. pinholes d. care in handling negatives.

Instructional Methods

- Students review illustrated text materials.
- Teacher leads small group demonstration of procedures for preparing a line negative.
- Students follow a teacher demonstration with "hands-on" supervision.
- Students individually set up their own jobs.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS B 2,4a,d APPLICATION C 2,5,8 PHYSICAL D 1a,c,d 2a/b 3c,g	Photo Offset Fundamentals Chapter 8	13	18

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL05 TASK: Prepare a line negative

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Develop Emulsion Exposure Line negatives or line shot Cameraman's guide	Recognize the meaning of horizontal and vertical relative to a sheet of paper	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Demonstration of correct and incorrect procedures to highlight the importance of correctness. • Allow students to read chapter assignment - give supportive help. • Keep close contact with the graphics teacher so supportive information can be relative to student's needs.

Supportive Instructional Materials:

Photo Offset Fundamentals
Examples of line negatives and uses

SUBCLUSTER: OFFSET LITHOGRAPHY

TASK: Prepare a halftone

Code: GCM - 0L06

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. define and describe the purpose and use of halftones. 2. describe the unique characteristics of the halftone photography process: a. inking b. duplication c. shading. 3. demonstrate the procedures for preparing and using a levi or glass screen: a. definition b. positioning procedure c. care and maintenance. 4. select and specify different glass screen ratings: a. lines per inch b. range. 5. follow a prescribed procedure to expose film using a glass screen. 6. follow a prescribed procedure for developing a halftone: a. prepare developer b. agitate c. maintain proper temperature d. handle negatives with caution.	• Para-professionals lead small group demonstration and discussion of halftone preparation processes and their uses - have student lead the group. • Teacher prepares a slide series on halftone photography for student use. • Students review illustrated text materials.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3.7,9 NUMBERS B 2,4a,d,e APPLICATION C 2,5,8 PHYSICAL D 1a,c,d 2a/b 3c,g	"Halftone Photography"	11	
	Photo Offset Fundamentals	13	18

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL06 TASK: Prepare a halftone

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Contact screen Flash Halftone Agitate Glass screen	Learn to read the table on Equivalency Density Factors Identify contact screen ratings: 80 line 120 line 140 line	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Look at a variety of halftones and discuss, relate to class work and text book information. • Provide opportunity for student to review reading assignment. Give encouragement and help.

Supportive Instructional Materials:

Photo Offset Fundamentals
Examples of halftones with explanations of difference in preparation
Table of Equivalency Density Factors

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Prepare a halftone using a contact screen

Code: GCM - OL07

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe the different types of contact screens:
   a. magenta
   b. gray
   c. gravure.
2. identify and list the different types of ratings of contact screens:
   a. lines per inch
   b. size.
3. follow a prescribed procedure in exposing film employing a contact screen:
   a. types of exposure
   b. desired contrasts
   c. positioning
   d. expose highlight dots
   e. developing procedures
   f. critical developing temperatures.
4. list and discuss the advantages and disadvantages of using the contact screen to produce a halftone:
   a. resolution
   b. distance
   c. vacuum
   d. cost
   e. efficiency in use.

Instructional Methods

- Teacher leads small group demonstration of procedures/techniques for using a contact screen.
- Students individually prepare a halftone using a contact screen.
- Teacher matches successful students who are interested in helping those having difficulty.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,6,9			
NUMBERS B 2,4a,d,f			
APPLICATION C 2,5,8			
PHYSICAL D 1a,c,d 2a/b 3c,g			

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL07 TASK: Prepare a halftone using a contact screen

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Gray or magenta screen Lines per inch Developing temperature	Determine the number of lines per inch ratings of screens, i.e. 80, 110, 135 Read a thermometer range between 65° - 100° F within 1° accuracy	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Important to keep supportive help in line with needs of the student.

Supportive Instructional Materials:

Thermometer
Screens

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 2

TASK: Prepare and strip-up a flat

Code: GCM - OL08

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the distinguishing elements of an offset flat. 2. select the appropriate tools and material for stripping-up a flat: a. goldenrod b. negatives c. opaque d. brushes e. exacto knife f. red litho tape g. light table h. brown-line print paper. 3. follow a prescribed procedure to strip-up a line negative: a. obtain dummy copy b. position goldenrod on light rable c. draw in reference lines d. trim negatives to size required for flat e. opaque-out; or blockout all pin holes or light holes f. transfer measurements from dummy to flat g. position negatives on flat h. tape negatives to goldenrod i. cut windows in flat with exacto knife j. remove all goldenrod in front of register, trim and fold marks k. expose flat to brown print paper as a check.	• Teacher assists students to strip-up a flat; then students individually prepare and strip-up their own flat. • Students review illustrated text materials and transparencies. • Teacher concentrates his effort with students having difficulty • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6,7 NUMBERS B 2,4a,i APPLICATION C 2,5,8 PHYSICAL D 1a,b,d 2a,3c,g	Photo Offset Fundamentals Chapter 12	13	18
	"Laying Out a Flat" GA21	12	12

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM- OL08 TASK: Prepare and strip-up a flat

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	• Review Chapter 12 of the text with the student. Give supportive help and assist in interpretation. • Supportive teacher must keep close contact with vocational teacher. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).
Goldenrod or masking sheet Opaque Red litho tape Light or stripping table Scribing Taped Reverse Relative positions Windows Cut out Stripping Developed	The student will have to use measurements extensively in this task, measuring inches to 1/4", 1", 2" Determine proportion of windows relative to portion of negative to be exposed.	

Supportive Instructional Materials:

Photo Offset Fundamentals

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 2 of 2

TASK: Prepare and strip-up a flat

Code: GCM - OL08

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 4. follow a prescribed procedure for stripping-up a halftone negative: a. exposure b. opaque c. positioning d. trimming e. prepare a brown-line print to insure alignment of flats.

Instructional Methods

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
NUMBERS			
APPLICATION			
PHYSICAL			

SUBCLUSTER:

Code: ___ - ____ TASK:

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	

Supportive Instructional Materials:

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Strip-up flats by selected techniques

Code: GCM - OL09

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. follow a prescribed procedure for inserting negative sections:
   a. strip film
   b. overlay inserts
   c. window inserts.

2. follow a prescribed procedure for adding rules and boarders to negatives:
   a. trimming
   b. scribing lines
   c. care/retouching.

3. follow a prescribed procedure for adding tint screens to negatives.

Instructional Methods

- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher leads small group demonstration of procedures for stripping-up flats with selected techniques.
- Students individually prepare a flat by a specified method.
- Students review illustrated text materials.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,5,6,7 NUMBERS B 2,4a,i APPLICATION C 2,5,8 PHYSICAL D 1a,b,d 2a 3c,g	Photo Offset Fundamentals Chapter 12	13	18

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL09 TASK: Strip-up flats by selected techniques

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Reverse Emulsion Base Unreadable Duller Transparent Opaquing Halation Taping Flat Scribing Straightedge	Trim 1/4" accurately from edge of an image Draw a series of lines 1/4" in length Note: this activity is reinforcing the scribing of negatives	• Teacher and deaf student should cooperatively develop some simple signs. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Visit the graphics lab and observe a flat ready for processing.

Supportive Instructional Materials:

Photo Offset Fundamentals

Examples of flats in various stages

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 1 of 1

TASK: Complete imposition work

Code: GCM - OL10

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the basic information needed for imposition:
   a. stock size
   b. folding information
      1) binding type
      2) margin size
      3) typed page size
      4) trimmed size
      5) untrimmed size.

2. describe and demonstrate the arrangement and positioning of pages during imposition:
   a. working dummy developed
   b. arrangement of signatures.

3. follow a prescribed procedure for completing imposition work by four identified processes:
   a. sheetwise
   b. step and repeat burn
   c. work and tumble
   d. work and turn.

Instructional Methods

- Students review illustrated text materials and teacher-prepared handout on imposition techniques.
- Teacher leads small group demonstration of procedures for completing imposition work.
- Students complete imposition work on given jobs commensurate with their ability.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,6,7,9 NUMBERS B 2,4a,d,i 5 APPLICATION C 2,5,8 PHYSICAL D 1a,b,d 2a/b 3c,g	Photo Offset Fundamentals Chapter 12	13	18
	"Imposition Techniques" (Developed by: Lanny R. Johnston)	14	30

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL10 TASK: Complete imposition work

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Press sheet Press run Images Lay out "Four up" Four page folder Job	Read and use ruler to within 1/16" accuracy	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Chapter 12 - Photo Offset Fundamentals can serve as back up information when necessary.

Supportive Instructional Materials:

Photo Offset Fundamentals

SUBCLUSTER: OFFSET LITHOGRAPHY

TASK: Prepare an offset plate

Code: GCM - OL11

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe the purpose or use of offset plates.
2. identify by name the different types of offset plates:
   a. surface plates
   b. deep-etch
   c. relief.
3. name the different materials commonly found in offset plates:
   a. paper
   b. aluminum
   c. plastic
   d. bimetal
   e. trimetal.
4. recognize the required precautions for protecting the sensitivity of plate coatings.
5. prepare an offset plate to press run:
   a. exposure of plate to light
   b. desensitize plate
   c. develop plate using lacquer material
   d. coat plate to eliminate oxidation.

Instructional Methods

- Teacher concentrates his effort with students having difficulty.
- Teacher leads small group demonstration of plate burning.
- Students individually burn and prepare their own plate(s).
- Students review illustrated text materials and handouts on additive and subtractive plates.
- Teacher encourages small group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,5,6	Photo Offset Fundamentals Chapter 13	13	18
NUMBERS N 2,4a,b,c,d,i 5,6	"Additive Plates" "Subtractive Plates" (Developed by Lanny R. Johnston)	14	30
APPLICATION C 2,3,5,8			
PHYSICAL D 1a,b,c,d 2a/b 3c,f,g			

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL11 TASK: Prepare an offset plate

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Offset plate Styles of plate ends Burn a plate Gumming Lacquer Subtractive plate R,K,E,S, plates Image Ink Print Transfer Plate ends straight round hole-pin bar oval hole-slotted looped hole-serrated surface grain chemical graining	Set time on a clock or timer in minutes, i.e. 1 1/2, 2 min., 2 1/2	• It will probably be hard for the student to gain an understanding of this task from the text, but he should be familiar with process and terms in this chapter. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Photo Offset Fundamentals

SUBCLUSTER: OFFSET LITHOGRAPHY

TASK: Load, operate and unload offset presses

Code: GCM - OL12

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the component parts of an offset press: a. master cylinder b. blanket cylinder c. impression cylinder d. grippers e. ink form rollers f. molleton form rollers g. feed table h. delivery table i. ink duct roller j. water duct roller k. water fountain l. ink fountain. 2. identify and describe the operation of machine controls on the A.B. Dick offset press: a. aquamatic b. inking unit c. switch d. vacuum e. buckle f. speed. 3. identify and describe the operation of press feeder unit on the A.B. Dick offset press: a. suction cups b. pile side guide c. rear paper guide d. paper height guide e. forward rollers	• Students work in teams setting up and operating the press • Teacher leads small group demonstration of offset press operation procedures • Students label parts of press illustrated on handout sheets • Students review illustrated text materials and press operation manuals • Para-professionals provide sustained involvement with students having difficulty with this task

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,2,3,7,9	"Offset Systems" GA25-29	12	12
NUMBERS B 4(all) 5	Press manuals	14	
APPLICATION C 5,6,8	Photo Offset Fundamentals Chapters 16-19	12	18
PHYSICAL D 1a,b,c,d,f 2b 3c,f,g			

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL12 TASK: Load, operate and unload offset presses

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Basic parts of an offset press (Check with graphics teacher to determine the types of presses in the lab, and identify that model press with the student(s) will be working on)	Recognize ratios for mixing chemicals in the press water system (5:1 water-chemical) (7:1)

Suggestions:

- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize wihtout calling attention to the individual).

Note: This task represents the culmination of all preceding tasks. Specific concepts may need to be reinforced for individual students.

Supportive Instructional Materials:

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 2 of 3

TASK: Load, operate and unload offset presses

Code: GCM - OL12

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: f. bail bar g. paper feed. 4. identify and describe the operation of the delivery and printing units of the A.B. Dick offset press: a. printing unit 1) aquamatic unit 2) inking system b. delivery system 1) chain delivery 2) front stop 3) jogging guides 4) ejector 5) retainer straps. 5. demonstrate the procedures for setting up and operating the A.B. Dick offset press: a. position paper in center of feeding unit b. set pile height of supply c. add ink to fountain d. turn on duplicator e. add fountain solution to fountain f. place plate on cylinder g. ink the plate h. turn duplicator on and close plate and blanket cylinder i. adjust buckle control j. register and adjust image on page k. adjust delivery chute l. balance ink and water volumes	

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
NUMBERS			
APPLICATION			
PHYSICAL			

SUBCLUSTER:

Code: ___ - ____ TASK:

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	

Supportive Instructional Materials:

SUBCLUSTER: OFFSET LITHOGRAPHY

Sheet 3 of 3

TASK: Load, operate and unload offset presses

Code: GCM OL12

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: m. adjust counter and print n. turn off ink then water o. turn off vacuum pump and press p. remove plate from cylinder q. place clean-up mat on cylinder r. drain fountain solution s. clean ink fountain t. add solvent to ink rollers and drop rollers onto clean-up mat u. clean-up blanket cylinder.	

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
NUMBERS			
APPLICATION			
PHYSICAL			

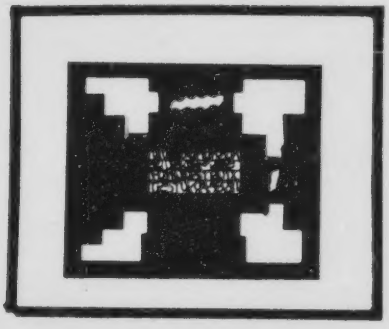
SUBCLUSTER:

Code: ___ - ____ TASK:

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	

Supportive Instructional Materials:

LETTERPRESS PRINTING



INSTRUCTIONAL TASK MODULES

LP01 Understands type nomenclature

LP02 Use the printer's measuring system

LP03 Identify and classify type

LP04 Handle type

LP05 Use a composing stick

LP06 Pull proofs

LP07 Corrects forms

LP08 Make-up and tie-up forms

LP09 Cut and use leads, slugs, and rules

LP10 Lock-up forms

LP11 Prepares press platen

LP12 Implements make-ready techniques and processes

LP13 Completes bank work

LP14 Uses grippers, fenders, and fingers

LP15 Troubleshoot general problems at letterpress

LP16 Recognize various plates used for letterpress

LP17 Select papers for letterpress

LP18 Clean and maintain type

LP19 Break forms and distribute type

LP20 Clean and maintain presses

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Understands type nomenclature

Code: GCM - LP01

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the various parts of a piece of type a. feet b. face c. serif d. shoulder e. neck or beard f. counter g. hairline h. groove i. nick j. body k. height (.918 inch). 2. explain the purpose of each of the identified parts of a piece of type. 3. place type in the proper positioning for printing. 4. describe the process of casting type by foundry and machine.	• Students review an overhead transparency and wall chart with parts of a piece of type labeled. • Students fill in a worksheet labelling the parts of a piece of type. • Students review type nomenclature from illustrated text materials. • Teacher concentrates his effort with students having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 9	"Foundry-type Parts" GA13	12	12
NUMBERS B 2	"Letterpress Lock Up" GA20	12	
APPLICATION C 2,5	"Type Measurement Parts" GA15	12	
PHYSICAL D 1a,2a,3c	Graphic Arts Chapters 2,3	13	16
	"Printing Through the Ages"	8	26
	Practice of Printing	14	
	AFT Wall Chart	16	

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP01 TASK: Understands type nomenclature

Basic Information for Cooperative Teaching	
Language of the Task	**Quantitative Concepts**
Face Shoulder Counter Nick Groove Feet Pinmark Body or shank Neck or beard Stem Serif Shoulder Hairline Caps (uppercase) Lower case	All type is "type high", a standard distance from the foot to the type face

Suggestions:

- See Graphic Arts by Carlsen for an illustration of language of the task.
- Drill deaf student extensively on language of the task.
- Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Use the type character sheet to help the student with spelling and pronunciation of words.

Supportive Instructional Materials:

"Graphic Arts Training in Schools" - Addressograph-Multigraph Corporation, Cleveland, Ohio 47117
Practice of Printing - Polk
AFT Wall Chart

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Use the printer's measuring system

Code: GCM - LP02

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the relationship between linear composing measurements: a. the pica b. the nonpareil c. the point d. comparison to inch. 2. identify the component part and procedure for using a composing stick: a. half pica lever b. calibrations c. clamp d. micrometer-adjusted stick. 3. identify and describe the relationship between area composing measurements: a. the en b. the em c. multiple em quads d. 3-em space e. 4-em space f. 5-em space.	• Students review simplified handout sheets on measuring system. • Students handle and adjust line gauges as teacher discusses its use. • Teacher concentrates his effort with students having difficulty. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,6	GA12 Transparencies GA14 Transparencies	12	12
NUMBERS B 4a,5a	Graphic Arts Chapter 2	13	16
APPLICATION C 2,5			
PHYSICAL D 1a,b,c,d 2a/b 3c,g			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP02 TASK: Use the printer's measuring system

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	
Point	6 picas = 1 inch	• Most special education teachers do not understand the language of the printer so check with the vocational graphic arts teacher to determine his needs.
Pica	72 points = 1 inch	• A review of the text may give the student a better understanding of the task.
Em	12 points = 1 pica	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
Em quad	Em is the square of the type body of any size type	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
Space	En is half an em	• Drill deaf student extensively on language of the task.
Em space	Em-quad is a multiple of an em	
En	Em-space is a fractional part of an em	
Multiple	Translate printer's terms for measurement into inch terminology. In view of current trends, the teacher may want to consider metric measurements	
Half		
Fractional part		

Supportive Instructional Materials:

Graphic Arts by Carlsen
Line gauge
Composing stick

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Identify and classify type

Code: GCM - LP03

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify specific type faces from a variety of pieces of printed material:
   a. script
   b. Roman
   c. san serif
   d. italic
   e. display/novelty
   f. block letter.

2. identify type by the following:
   a. by size
   b. by broad classes
   c. script faces divided
   d. novelty faces divided
   e. Roman faces divided.

Instructional Methods

- Teacher leads class discussion of the historical development of different type styles available in lab.
- Students prepare and display samples of all type faces available in lab.
- Students review illustrated text materials.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,6 NUMBERS B 4a APPLICATION C 2 PHYSICAL D 1a, 2a, 3c,g	Graphic Arts Chapter 2	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP03 TASK: Identify and classify type

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Point sizes Face California job case	Visualize the different sized type by working with a composing stick, then relate points, etc., to inches.	• Material under task skills could be pointed out with the use of text. • Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task.

Supportive Instructional Materials:

Graphic Arts by Carlsen

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Handle type

Code: GCM - LP04

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify specific compartments of the California job case with accuracy: a. major divisions b. subdivisions c. caps (upper case) d. lower case e. figures f. ligatures g. punctuation marks h. spacing pieces. 2. properly remove, handle, and replace job case from storage bank. 3. recognize and observe specific safety precautions related to handling pieces of type.

Instructional Methods

- Teacher demonstrates the use and care of California job case.
- Students review teacher-prepared handout on California job case and illustrated text materials.
- Students practice learning the California job case by distributing a variety of pre-set jobs.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,6	"California job case"	12	12
NUMBERS	Graphic Arts Chapter 2	13	16
APPLICATION C 2			
PHYSICAL D 1a,b,c,d 2a/b 3c,g			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP04 TASK: Handle type

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Caps or upper case Lower case California job case Composing stick Leads and slugs Hell box Copy Pull a proof /galley proof	

Suggestions:

- Ask graphics instructor for a handout sheet on the California job case. It would be helpful if the student would work on memorizing the areas where each letter goes.
- Use of illustrations in text may help the student.
- Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Since many places are doing away with letterpress, perhaps one could acquire a California job case. If a few pieces of type were removed at random from the case, the student could get a working knowledge of the case by trying to replace the type.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co.

SUBCLUSTER: LETTERPRESS PRINTING

TASK: Use a composing stick

Code: GCM - LP05

Student Name: _____

Student Progress: Introduced | Involved | Productive | Employable

Behavioral Task Knowledges/Task Skills

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. properly select and place type in a composing stick:
   a. picking out piece
   b. locating nick
   c. placing in stick
   d. holding in place with thumb.
2. demonstrate the proper grip of the composing stick.
3. follow a prescribed procedure for quadding out line space on a composing stick:
   a. roughly estimate space
   b. large pieces first
   c. large pieces placed at end
   d. fit out balance.
4. follow a prescribed procedure for setting type flush right in a composing stick.
5. follow a prescribed procedure for centering lines with a composing stick.
6. follow a prescribed procedure for word spacing.
7. follow a prescribed procedure for justifying a line of type in a composing stick
8. follow a prescribed procedure for spacing lines of type in a composing stick.

Instructional Methods

- Teacher demonstrates the proper positioning and use of composing stick.
- Students review California job case handout and AFT wall charts.
- Students practice setting a variety of sample and production jobs.
- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
A 1,6	Graphic Arts Chapter 2	13	16
NUMBERS			
B 4a	AFT charts	16	
APPLICATION			
C 2			
PHYSICAL			
D 1a,b,c,d			
2a/b			
3c,g			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM- LP05 TASK: Use a composing stick

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Composing stick Pica Nick Flush Centered Proof marks Leads and slugs	Translate printers measurement into inch terminology	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • This is an excellent opportunity to emphasize correct spelling and use of the dictionary.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co.
Composing stick
Type
Manuscript samples

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Pull proofs

Code: GCM - LP06

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the component parts of a proof press. 2. describe and demonstrate the procedure for operating a proof press to provide for single line proofing or galley. proofs 3. pull and correct proofs of hand set job sheets.	• Teacher directs small group demonstration of procedures for pulling proofs. • Students pull proofs of all set jobs. • Teacher encourages small peer group cooperation and interaction • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9 NUMBERS APPLICATION C 5,6,8 PHYSICAL D 1a-d 2c, 3c	Graphic Arts Chapter 2	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP06 TASK: Pull proofs

Basic Information for Cooperative Teaching	
Language of the Task	**Quantitative Concepts**
Tying up Galley Ink Brayer Centers Contact Release Slur Roll proof Strip proof Grippers Deadline Proof	Recognize and/or check for the following on a proof: parallel, even, perpendicular, level, sequence.

Suggestions:

- Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Pulling proofs demands close attention to accuracy and coordinated movements. If in pulling proofs a student notices something slipping or going askew, he must recognize the importance of asking for help because much time can be lost by making an incorrect adjustment. Machines, parts, and product can be damaged and students can be injured by trying to make corrections while a machine is in motion. It behooves the supportive teacher to provide the occasion to impress upon the student of the importance of respecting this need.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Correct forms

Code: GCM- LP07

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. correct type forms in a composing stick following a prescribed procedure: a. performed in stick b. exclusive use of fingers c. tilt bad piece out d. insert corrected piece e. rejustify if required f. pull new proof g. dispose of damaged type h. make final corrections in the galley.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher directs small group demonstration of procedures for correcting mistakes before lock-up. • Students read and review illustrated text materials. • Teacher concentrates his effort with students having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS APPLICATION C 2,8 PHYSICAL D 1a,b,c,d 2a/b, 3c	Graphic Arts Chapter 2	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM- LP07 TASK: Correct forms

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Tweezers Rejustify line	

Suggestions:

- A review of appropriate sections of text will help the student.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Make-up and tie-up forms

Code: GCM - LP08

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the use of select pieces of equipment for making-up and tying-up forms: a. galley b. type gauge c. line gauge d. leads e. slugs f. page cord g. make-up rule h. tweezers. 2. follow a prescribed procedure in tying-up type forms in a composing stick in a galley: a. small forms b. single lines c. using the beginner's technique. 3. demonstrate the proper use and function of the imposing stone. 4. dump a stick of type onto the stone or galley. 5. follow a prescribed procedure in tying up a type form for transfer to a galley: a. page cord b. place slugs on sides c. wrap tightly d. overlap cord wrappings e. tuck in cord at end f. slide wrapping to center g. perform hold test h. transfer to galley.

Instructional Methods

- Teacher directs small group demonstration of tie-up procedures.
- Students review illustrated text materials and wall charts.
- Teacher concentrates his effort with students having difficulty.
- Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 9 NUMBERS B 1, 4a, 6 APPLICATION C 5 PHYSICAL D 1a,b,c,d 2a/b 3c,g	Graphic Arts AFT wall charts	13 16	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP08 TASK: Make-up and tie-up forms

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	
Form Slug Type Feet String Quad Head Galley Wrap Make-up rule	Concept of order — 1st, 2nd, 3rd Determine length of string needed for tie-up by adding length of form times 2 to width of form times 2, then multiple by 5 or measure off five more identical lengths before cutting.	• This lesson is covered in Chapter 2 of text. If the student has covered previous lessons, he should have an understanding of this task. • Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some signs related to language of the task. • The teacher will learn this skill by experiencing it, but the supportive teacher can do much by helping the student understand the need for accuracy and caution.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. A. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Cut and use leads, slugs, and rules

Code: GCM - LP09

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the component parts of the slug cutter and mitering machine.
2. identify the component parts of an AFT saw trimmer.
3. suggest uses or applications of leads, slugs, and rules in relief printing.
4. list seven different types of rules to be used in relief printing:
   a. line width
   b. dotted line
   c. facing
   d. double line
   e. brass
   f. ornamental
   g. creasing
   h. perforating.
5. safely operate a slug cutter, following a prescribed procedure.
6. safely operate a mitering machine, following a prescribed procedure.

Instructional Methods

- Teacher matches successful students who are interested in helping those having difficulty.
- Teacher provides small group demonstration of procedures for cutting and using leads, slugs, and rules.
- Students practice cutting leads, slugs, and rules to specified lengths.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS B 2, 4a APPLICATION C 2,5,8 PHYSICAL D 1a,b,d 2b 3c,g	AFT wall charts	16	

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP09 TASK: Cut and use leads, slugs and rules

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Leads Rules Slugs Rough cut Miter Gauge Shear Knurled nut Micrometer Bed Work holder Knife holder	Read gradations on gauge to half point accuracy. (Accuracy in reading rules of measurements are essential in letterpress printing).	• The use of slug cutter will be demonstrated in the classroom. • Safety is important, stress to the student that care should be used when operating this type of tool. Areas that should be stressed are: wearing safety glasses when using the saw, don't talk to other students, other students should keep away from the student using these tools, keep fingers at a safe distance from cutting edge. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Lock-up forms

Code: GCM - LP10

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. pull and proofread final galley proof. 2. transfer type from imposing stone to galley, following a prescribed procedure. 3. lock-up type form in chase following a prescribed procedure: a. measure form b. select furniture c. use chaser method for lock-up d. fill solid spaces e. place quoins f. fill opposite sides g. position form h. use pyramidal building i. hand tighten quoins j. plane type k. tighten quoins by wrench l. test for hold, bind, spring. 4. identify and select furniture for the lock-up. 5. demonstrate the chaser method for locking up and placing furniture. 6. demonstrate the furniture within furniture method.

Instructional Methods

- Students review wall charts and teacher prepared handouts on lock-up.
- Teacher provides small group demonstration of procedures for locking-up a form.
- Students practice locking-up forms by various methods.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9	Handouts (Developed by Lanny Johnston)	14	30
NUMBERS B 1, 4a	Graphic Arts Chapter 3	13	16
APPLICATION C 2a,5,8	AFT wall charts	16	
PHYSICAL D 1a,b,c,d 2a/b 3c,g			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP10 TASK: Lock-up forms

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Stone Chase Lock-up Furniture Quoin Quoin key Chaser method of lock-up Imposing table Unlocked form Make-ready rule Cards Rule border Sinkers Sounding		• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • This task is illustrated quite well in the text. • To observe this operation would be very meaningful if one could arrange such a demonstration. Perhaps a home movie taken of the operation would have value. A composer will read from left to right, but upside down.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Prepare press platen

Code: GCM - LP11

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will 1. identify and describe the use of selected materials and equipment for preparing the press platen: a. tympan paper b. packing stock c. gauge pins d. ink e. ink knife f. solvent g. rags h. sealing wax. 2. follow a prescribed procedure for removing and replacing packing material from press. 3. ink the press platen for operation: a. obtain ink b. work on ink plate c. use ink knife d. ink the press e. work out ink f. use ink sparingly. 4. clean the press platen of ink: a. solvents (kerosene) b. rags c. use machine operation to clean press.

Instructional Methods

- Students view movie on preparing press platens.
- Students review sections of General Printing text.
- Teacher provides small group demonstration of procedures for making ready a press platen.
- Students work in teams practicing procedures for preparing the press platen.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9 NUMBERS B 4a, 5 APPLICATION C 2,8 PHYSICAL D 1a,b,d 2b 3a,c,f,g	General Printing	13	18
	"Platen Press Makeready"	8	6

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP11 TASK: Prepare press platen

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Tympan paper or drawsheet Platen Packing Gauge pins Ink knife Solvent or cleaning fluid Safety can Grippers Makeready Ink Oxidation Ink plate Tampan bails Press bed	Must be able to estimate 1/6 of an inch, 1/3 of a width of a sheet. Check accuracy of estimation with a scale that one must read accurately.	• The book refers to the draw sheet; It is more appropriate for it to be called the tympan sheet. • Teacher concentrates his effort with students having difficulty. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Student must recognize the corner of an object that is "upper and to the right" in placing the chase in the press, lower left corner, etc.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 2

TASK: Implement make-ready techniques and processes

Code: GCM - LP12

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. list and describe the make-ready processes for operation of the platen press. 2. strike an impression by hand operating platen press: a. secure bails b. watch grippers c. strike on draw sheet d. strike on top sheet. 3. diagnose impressions and adjust packing materials accordingly. 4. complete spot and overlay procedures for the platen press, following a prescribed procedure: a. open tympan sheets b. build up c. underlay d. feather-edged pieces e. paste f. trial and error process g. repeat as needed h. impression i. correct entire impression if needed. 5. attach gauge pins to tympan of the press, following a prescribed procedure: a. layout lines for pin placement on tympan b. insert gauge pins	• Student practice make-ready and operation on a hand-fed job press with teacher standing at the brake and hand lever. • Students review illustrated text and handout materials. • Teacher provides small group demonstration of make-ready procedures/techniques on hand-fed job press. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS B 2,4a APPLICATION C 2,8 PHYSICAL D 1a,c,d,f 2b 3c,g	Graphic Arts Chapter 3	13	16
	"Platen Press Makeready Handout" (developed by Lanny Johnston)	14	30

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP12 TASK: Implement make-ready techniques and processes

Basic Information for Cooperative Teaching	
Language of the Task	**Quantitative Concepts**
Make-ready Feather-edge Platen press Impression Super Pinch-mark "Marking-out" "Spot-up" Hard packing Soft packing "Matrix" packing Margin Grippers Tympan Underlay	Recognize and/or check for: parallel, vertical, horizontal. Adjust margins: 1/4" to 1 1/2" in 1/4" intervals.

Suggestions:

- Being able to work accurately and recognize fine differences, to read the necessary scale to its degree of exactness and have the ability to estimate these distances are all essential to better press printing.
- Go over Safety Precautions on page 37 and 38. The student must know how to operate the equipment safely.
- Inform graphics teacher of left-handed students since they usually have trouble with this task.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).
- Be careful in using words with multiple meanings when talking to lip reading deaf students.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 2 of 2

TASK: Implement make-ready techniques and processes

Code: GCM - LP12

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will c. seal pins with wax d. stroke impression e. check for squareness, margins, etc. f. wipe impression from tympan g. tap gauge pins tight. 6. feed and deliver paper to press bed: a. feed press with right hand b. remove and deliver stock with left hand. 7. recognize and observe safety precautions related to the operation of a platen press.	

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
NUMBERS			
APPLICATION			
PHYSICAL			

SUBCLUSTER:

Code: ___ - ____ TASK:

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

TASK: Complete bank work

Code: GCM - LP13

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. follow a specific procedure for final imposing at the bank: a. galley arrangement b. printer's position c. forms tied d. placement of forms e. spacing out forms f. untying g. tightening h. retying. 2. complete additional bank, such as: a. corrections b. line space arrangements c. centering d. flush left e. flush right f. diagonal centering g. breaking for color.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher matches successful students who are interested in helping those having difficulty. • Teacher provides small group demonstration of use of the type bank. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS APPLICATION C 8 PHYSICAL D 1a,b,d 2b 3c,g	Graphic Arts Chapter 3	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP13 TASK: Complete bank work

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Bank Alley Galley	Note: This task involves some of the previous tasks; therefore selected quantitative concepts may have to be covered again based on individual student needs.	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • A compositor reads his type from left to right and upside down. • Stress the need for careful workmanship because expensive type can be damaged easily.

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Use grippers, fenders, and fingers

Code: GCM - LP14

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the operation of specific types of grippers and fingers. 2. attach a frisket to grippers of a press. 3. demonstrate the procedures for adjusting gripper: a. fingers b. racket teeth c. supplementary tabs. 4. describe the purpose and procedure for using fenders.	• Teacher provides small group demonstration of use of grippers, fenders, and fingers. • Students follow a teacher demonstration with "hands-on" supervision. • Students practice setting up and adjusting grippers. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,9 NUMBERS B 4a APPLICATION C 5,8 PHYSICAL D 1a,b,d 2a/b 3c,g			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP14 TASK: Use grippers, fenders, and fingers

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Frisket Fingers Racket Supplementary Fender Good guide Tympan Clearance	Recognize and/or check for: parallel vertical horizontal.	• This will be demonstrated in the graphics lab. See the graphics teacher to determine his needs. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task.

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Troubleshoot general problems at letterpress

Code: GCM- LP15

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. visually observe press operation for possible malfunction: a. roller action b. rinking system c. gripper action d. picking mechanism e. vibration roller action. 2. detect malfunction of press operation by listening for auditory cues: a. rhythmic beat b. recognize speed-up c. friction sounds d. identify roller pull. 3. examine a press proof and identify the following undesirable characteristics: a. slur b. ghosting c. offset d. mottling e. embossing f. picking. 4. cite specific reasons and solutions for adjusting the identified press malfunctions.	• Teacher provides small group demonstration of troubleshooting techniques for specific problems. • Students review teacher-prepared handout of common trouble-shooting areas. • Teacher concentrates his effort with students having difficulty. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 4a,5 APPLICATION C 8 PHYSICAL D 1a/b 2a/b 3c,g	Handout	13	

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM- LP15 TASK: Troubleshoot general problems at letterpress

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Slur Ghosting Offset Mottling Embossing	Measure accurately with a rule Determine parallelness Recognize vertical and horizontal lines Recognize evidence of uneven pressure on a frame, etc.

Suggestions:

- This lesson will be demonstrated in the classroom.
- Teacher and deaf students hould cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).
- It is very important to recognize any evidence of elements of a form being askew.

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

TASK: Recognize various plates used for letterpress

Code: GCM - LP16

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the types, uses, and applications of plastic and flexographic plates: a. flexographic book reprints rubber stamp b. plastic engravings (line, halftone, and combination) c. zinc d. lead.	• Students assemble, label, and display different types of plates used in letterpress printing. • Teacher concentrates his effort with students having difficulty. • Teacher makes contact with each student during the class period. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS APPLICATION C 2,8 PHYSICAL D 1a, 2a			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP16 TASK: Recognize various plates used for letterpress

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Engravings or cuts Line engravings or line cuts Wood cuts Copper plate Intaglio Gravure Photoengraving Stereotype plates Monotype Nickel-type plates Rubber print plates Plastic plates	Recognize common sizes of engraved plates used in letterpress printing.	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Select papers for letterpress

Code: GCM - LP17

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify specific types of paper appropriate for letterpress printing: a. bonds b. ledgers c. books. 2. select specific type of paper finishes appropriate for letterpress printing: a. bond paper b. ledger papers c. book papers. 3. select the paper and ink for a specific letterpress job: a. color pigment b. vehicle c. filler d. dryer e. retarde. 4. analyze the optimum relationship of ink components for a specific letterpress job.	• Students assemble, label, and display the various types of paper stocks used on letterpress. • Students review appropriate sections of Graphic Arts. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher makes contact with each student during the class period.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 4a,b APPLICATION C 2,8 PHYSICAL D 1a, 2b	Graphic Arts Chapters 3 and 13	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM- LP17 TASK: Select papers for letterpress

Basic Information for Cooperative Teaching		
Language of the Task	Quantitative Concepts	Suggestions:
Bond paper Ledgers paper Book paper Vehicle Dryer Newsprint Calendared Super calendared English finish Antique Bond Ledger Lithograph or offset	Measure flat stock and suggest various cuts for standard size working stock. Recognize and measure the following paper sizes: 8 1/2" x 11" 17" x 22" 22" x 28" 17 1/2" x 22 19" x 24".	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual) • Keep a close contact with graphics teacher so meaningful communication can take place between the student and supportive teacher.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

SUBCLUSTER: LETTERPRESS PRINTING

TASK: Clean and maintain type

Code: GCM - LP18

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. select the appropriate tools and materials for cleaning type. 2. follow a prescribed procedure in cleaning pieces of type: a. wipe after use b. clean after press run c. clean with benzine brush d. solvents 1) kerosene 2) type wash 3) quick drying solution.	• Teacher provides small group demonstration of procedures and techniques for cleaning and maintaining type. • Students follow a teacher demonstration with "hands-on" supervision. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,9 NUMBERS APPLICATION C 5-8 PHYSICAL D 1a,b,d 2a/b 3c,g	Graphic Arts Chapter 3	13	16

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP18 TASK: Clean and maintain type

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Safety can Cleaner Type wash Brush fibre bristle plate brush Solvent	Recognize common sizes of cleaning solvent containers: pints quarts gallons 5 gallons.	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Teach caution in cleaning type, because surfaces can be scratched and damaged. Check with graphics teacher to determine precautions in handling type.

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

Sheet 1 of 1

TASK: Break forms and distribute type

Code: GCM - LP19

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. follow a prescribed procedure in breaking out a form: a. remove from press b. clean type c. clean chase and furniture d. open lockup e. place chase in rack f. distribute furniture g. tie up form h. place in galley. 2. follow a prescribed procedure in distributing type from a galley to the job case: a. untying b. remove one line at a time c. hold the line on a slug d. distribute to case e. sort odd pieces f. distribute leads and slugs.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher provides small group demonstration of techniques for distributing type. • Student follows a teacher demonstration with "hands-on" supervision. • Teacher makes contact with each student during the class period.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS APPLICATION C 2,8 PHYSICAL D 1a,b,c 2a/b 3c,b			

SUBCLUSTER: LETTERPRESS PRINTING

Code: GCM - LP19 TASK: Break forms and distribute type

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Distribute California job case	

Suggestions:

- By this time the student will have covered the terms used in this lesson. Selective review may be necessary based on student need.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

SUBCLUSTER: LETTERPRESS PRINTING

TASK: Clean and maintain presses

Sheet 1 of 1

Code: GCM - LP20

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. follow a prescribed procedure for lubricating and maintaining letterpress presses: a. manufacturer's specifications b. daily lubrication schedule c. oil grades d. grease cups e. oil cups f. cleanliness g. belt dressing h. drip pan. 2. complete the following maintenance tasks as required: a. cleaning b. recasting c. removal/replacement d. storage e. cleaning precautions.	• Teacher provides demonstration of cleaning and maintaining the platen press. • Student follows a teacher demonstration with "hands-on" supervision. • Teacher encourages small peer group cooperation and interaction. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,9 NUMBERS B a,b APPLICATION C 2,5,8 PHYSICAL D 1a,b,c,d 2c 3c,f,g			

SUBCLUSTER: LETTERPRESS PRINTING

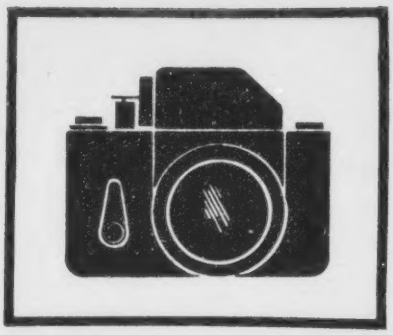
Code: GCM - LP20 TASK: Clean and maintain presses

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Manufacturer's specifications Grease cups Oil cups Belt dressing Recast Remove Replace		• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Stress the importance of total cleanliness when cleaning the press.

Supportive Instructional Materials:

Graphic Arts by Carlsen
Chas. Bennett Co., Inc.

COMMERCIAL PHOTOGRAPHY



INSTRUCTIONAL TASK MODULES

CP01 Identifying cameras and their operation

CP02 Selecting film

CP03 Taking pictures

CP04 Developing negatives and prints

CP05 Using light meters

CP06 Using lenses

CP07 Adjusting flash and lighting

CP08 Using filters

CP09 Operate darkroom equipment

CP10 Making enlargements

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Identifying cameras and their operation

Code: GCM - CP01

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify different types of cameras and describe their operation: a. pin hole camera. b. box camera. c. instamatic camera. d. polaroid camera. e. range finder camera. f. reflex camera. g. twin lens reflex camera. 2. load, set, and shoot pictures with a camera: a. ASA. b. F stop. c. split image focusing. d. ground glass focusing. e. shutter speed.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher leads small group discussion regarding cameras and their operation. • Teacher demonstrates the use of cameras and equipment. • Students follow a teacher demonstration with "hands-on" supervision. • Students review text materials regarding cameras and camera operations. • Students role play the use/operation of cameras in simulated situations.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,6,9 NUMBERS B 2,4 APPLICATION C 2,5,7 PHYSICAL D 1,2a	Practical Photography Chapter 2	13	18

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP01 TASK: Identifying cameras and their operation

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Use Chapter 2 as a reference. • It is imperative that the supporting teacher relates the work being taught to the current needs of the vocational graphic arts teacher. This requires frequent communication between the two.
F-opening or F-stop Pin hole camera Shutter speed ASA Focal length Range finder Split image Load Focus Shoot	Measure distance. Read a light meter — relate to distance. Read speed chart.	

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Selecting film

Code: GCM - CP02

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. select the appropriate film for a given use:
   a. black and white film.
   b. color film.
   c. slide film.
   d. ASA rating.
   e. graininess.
   f. orthochromatic.
   g. panchromatic.
   h. structure of film.
2. discuss the general differences between different types of film.

Instructional Methods

- Teacher leads small group discussion of different types of film characteristics and film ratings.
- Students review illustrated text materials and film company materials.
- Students select the appropriate film for specific applications on a problem worksheet exercise.
- Students role play and discuss the advantages/ disadvantages of using certain types of film for a given situation.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6 NUMBERS B 2 APPLICATION C 2 PHYSICAL D 1a,2a	Practical Photography Chapter 6	13	18

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP02 TASK: Selecting film

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Pan film Grain Gelatin Cut film Color Black-white Light sensitive	Make number relationships between camera size and film size. Relate the instructions that come with the film to distance from object, intensity of light, etc.	• Use Chapter 6 of the text as a reference. • This requires close communication between the two teachers until a good working understanding is established.

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Taking pictures

Code: GCM - CP03

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. take pictures, using different types of cameras and attachments, of the following subjects: a. landscapes. b. still life. c. portraits. d. silhouettes. e. abstractions. f. action pictures. g. etc.

Instructional Methods

- Students view sound/filmstrip and sound/slide presentations.
- Students become involved in actual picture-taking activities.
- Teacher-led discussion of specific considerations in taking pictures of certain subjects.
- Para-professionals provide sustained involvement with students having difficulty with this task.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,6,9	Practical Photography Chapters 14-18	13	18
NUMBERS B 1,2,4a,d	"Adventures in Indoor Color Slides"	4	
APPLICATION C 5,7,9	"Adventures in Outdoor Color Slides"	4	
PHYSICAL D 1a,b,c,d 2a, 3a,b,c,e, f,g	"Photography-Close-Ups, Copy with a 35mm Camera"	5	22

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CPQ3 TASK: Taking pictures

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Log information of conditions under which each picture is taken so discussion can take place and appropriate adjustments be made.
Stop action	Estimate distance.	
Light meter	Read a light meter.	
Distance	Compute or read appropriate chart for F-stop setting.	

Supportive Instructional Materials:

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

TASK: Developing negatives and prints

Code: GCM - CP04

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate his ability to develop a roll of film by preparing and using: a. developer. b. stop bath. c. fix. d. wash. e. measuring device. f. developing tank. g. timer.

Instructional Methods

- Teacher directs small group discussion of procedures for developing negatives and prints.
- Students view sound/slide program and filmstrips.
- Students review illustrated text materials and film company literature.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,9,10	Practical Photography Chapter 9	13	18
NUMBERS B 2,4c,d,f	"How to Develop Black and White Film"	4	21
APPLICATION	"Developing a Roll of Film"	10	
C 2,5	"Developing Sheet Film"	10	
PHYSICAL D 1,2a/b 3c,f,g			

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP04 TASK: Developing negatives and prints

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Developer Stop bath Fix Fog Tank Light leak	Measure liquids in a measuring cup with accuracy. Be able to count a pre-determined number of seconds and minutes on a clock, i.e. 10 sec., 30 sec., 1 min. 10 sec., 90 sec., etc. Be able to read a thermometer. (Check with photography teacher to see if centigrade or fahrenheit.	

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Using light meters

Code: GCM- CP05

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable		Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate the ability to select and use: a. hand held light meters. b. built in light meters. 2. demonstrate the ability to check and/or set: a. F stop and time combinations. b. false meter readings. c. time exposures. d. exposure guides.	• Teacher and/or resource person demonstrates the procedures for selecting, setting, and using light meters. • Students view film. • Students read and review illustrated text materials and film company literature on use of light meters. • Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6,9	Practical Photography Chapter 4	13	18
NUMBERS B 1,2,4a,d	"Exposure Meter"	8	5
APPLICATION C 2,5			
PHYSICAL D 1a,b,2a			

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP05 TASK: Using light meters

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Light or exposure meter Iris - Lens opening F-stop Time settings Camera lens Time exposure	Read a time setting - 1/30 sec., 1/60 sec., 1/250 sec., etc. Read a light meter to determine appropriate lens opening and shutter speed. Learn to estimate distance by measuring distance after estimating 5 ft., 10 ft., etc.

Suggestions:

- Continue frequent contacts with the photography instructor to determine individual student's need.

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Using lenses

Code: GCM - CP06

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and explain the use and characteristics of different types of lenses: a. wide angle lens. b. normal lens. c. telephoto lens. d. extenders. e. close up lens. f. rings. 2. select and utilize the appropriate equipment listed above in taking pictures under specified conditions.	• Teacher discusses the proper techniques for selecting and using camera lenses. • Students read and review illustrated text materials. • Students select the appropriate lens for given situations on a worksheet exercise. • Teacher concentrates his effort with students having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,5,6 NUMBERS B 2a,4a,d APPLICATION C 2a,5,7,8,9 PHYSICAL D 1a,d 2a/b	Practical Photography	13	18

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP06 TASK: Using lenses

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Image Wide angle Telephoto Light rays Refraction Distortion Depth of field Supplementary lens	Measurement of distance Reading meters Reading guides or charts	

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Adjusting flash and lighting

Code: GCM - CP07

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate his ability to adjust, operate, and/or use: a. electronic flash. b. flash bulb. c. available light. d. front, side and back lighting. e. guide numbers. f. flash bounce. g. flash fill in. h. special effect lighting.

Instructional Methods

- Teacher leads small group discussion and demonstration of appropriate techniques for adjusting flash and lighting.
- Students view slide presentation entitled:"Pictures with Flash and Flood".
- Students review illustrated text materials.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6	Practical Photography Chapter 5	13	18
NUMBERS B 2a	"Pictures with Flash and Flood"	4	21
APPLICATION C 2a,b,5,8			
PHYSICAL D 1a,c 2a/b			

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CP07 TASK: Adjusting flash and lighting

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Flash bulb Electronic Fill in Bounce Over-exposure Under-exposure	Estimate distances in feet. Read light meter. Recognize angle of lighting and the subsequent shadows (adjust angle of lighting with regard to shadows)	• Discuss with the student the specific work experiences and information learned in the vocational class. • Measure and mark distances down a hall way from 0 to 25 feet in 5 foot intervals. With students working in pairs, allow each student ample time to become accurate in estimating the measured distances.

Supportive Instructional Materials:

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Using filters

Code: GCM - CP08

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate his ability to select and use filters: a. colored filters. b. diffusion filters. c. pollinizing filter. d. haze filters. e. glass and gelatin filters.

Instructional Methods

- Teacher leads small group discussion and demonstration of the use of filters.
- Students complete teacher-designed experiments illustrating the effects of different types of filters.
- Students read and/or review illustrated text materials.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,5,6 NUMBERS B 4a,d 6 APPLICATION C 2a,b,5,7 PHYSICAL D 1a,b,d 2a/b	Practical Photography	13	18

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM- CP08 TASK: Using filters

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Have student bring examples of work being done in vocational class and explain the differences — purpose, effect, etc.
Filter color light Depth of field Intensity of light	Divide numbers such as 4/100, 3/400, 5/100, etc.	

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

TASK: Operate darkroom equipment

Code: GCM - CP09

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. demonstrate his ability to operate commercial photographic darkroom equipment: a. enlarger. b. print washer. c. print dryer. d. dodging tools. e. timers. f. measuring devices. g. storage equipment. h. darkroom lights. 2. provide care and maintenance for darkroom equipment.	• Teacher encourages small peer group cooperation and interaction. • Teacher leads small group discussion and demonstration of procedures for operating darkroom equipment. • Students view film. • Students read and review illustrated text materials. • Students use darkroom equipment for developing of film.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,5,6,10	Practical Photography Chapter 8	13	18
NUMBERS B 1,2 4b,c,d,f	"Darkroom Techniques"	8	29
APPLICATION C 2,5,8			
PHYSICAL D 1a,b,d.f 2a/b 3c,f,g			

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Code: GCM - CF09 TASK: Operate darkroom equipment

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Encourage the student to tell the rest of the class about photography. Set a pattern of interest so the other students feel comfortable in asking relative questions, thus learning more about the "world out there".
Enlarger Lamp house Condensing lens Negative carrier Focus and lens adjustment Lens	Student must be able not only to read and count seconds on a clock, but he must also be able to relate and react on a close time sequence, i.e. 10 sec., 30 sec., 1 min., 90 sec., etc.	

Supportive Instructional Materials:

Practical Photography

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

Sheet 1 of 1

TASK: Making enlargements

Code: GCM - CP10

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. select and use the following equipment and materials in making enlargements: a. enlarger. b. paper safe. c. safe lights. d. filters (variable contrast). e. No. 1,2,3,4 contrast paper. f. burning in tools. g. dodging tools. h. cropping. i. easel. j. developing chemicals. k. print washer. l. print dryer. m. timer.	• Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher leads small group discussion and demonstration of procedures for making enlargements. • Students view sound/slide program. • Students view filmstrips. • Students make enlargements from previously developed prints.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6	Practical Photography Chapter 11	13	18
NUMBERS B 1,2,4a,5,6,	"Let's Make an Enlargement"	4	21
APPLICATION	"Projection Printing" 1 and 2	10	
C 2,5,8	"Spot Printing and Dodging"	10	
PHYSICAL D 1a,d 2a/b	"Contact Printing"	10	

SUBCLUSTER: COMMERCIAL PHOTOGRAPHY

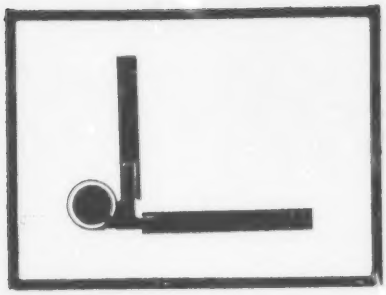
Code: CCM - CP10 TASK: Making enlargements

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Show interest in each student's work by asking questions related to the subjects being photographed, the sharpness of prints, and/or the correctness of exposure.
Diffusion Condenser Diffusion-condenser Focal length Emulsion Sensitive paper Photo supply Dodging Spot printing Cropping Vignetting Retouch Spotting	Continue familiarizing student with the fractional breakdown of short periods of time, i.e. four 15 min. segments in an hour; three 20 min. segements in an hour; three 5 min. segmerts in 15 min., fractional breakdown of seconds. Repeat the refinement of measuring distance. Students should recognize the difference between 1/4, 1/8, 1/16 of an inch. Realize the need to recognize stock sizes: 11x5, 8x10, 3x5, etc.	

Supportive Instructional Materials:

Practical Photography

DRAFTING



INSTRUCTIONAL TASK MODULES

DT01 Prepare isometric sketches

DT02 Prepare multiview sketches

DT03 Letter drawings and graphic materials

DT04 Use drafting equipment in drawing simple shapes

DT05 Prepare geometric constructions with drafting equipment

DT06 Operate drawing reproduction machines

DT07 Construct and prepare isometric views

DT08 Construct and prepare multiview drawings

DT09 Dimension drawings

DT10 Prepare graphs and charts

DT11 Develop and construct sectional views

DT12 Prepare auxiliary views and revolutions

DT13 Construct developments and intersections

DT14 Construct and prepare perspective drawings

DT15 Detail screw threads and fasteners

DT16 Prepare design and working drawings

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare isometric sketches

Code: GCM - DT01

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the approximate construction axis for given isometric drawings. 2. recognize the proper proportions of a given object. 3. describe and demonstrate the procedures for locating non-isometric lines. 4. describe and demonstrate the procedures for sketching isometric circles and arcs. 5. accurately prepare isometric sketches of simple objects from two given orthographic views. 6. accurately prepare isometric sketches of simple objects from three given orthographic views.	• Teacher leads blackboard discussion of procedures and techniques using teacher-made transparencies. • Students view film loops. • Students complete partially finished views from a teacher-prepared problem sheet. • Students work on sketching problems employing 3-D styrofoam or wood models of the objects. • Students should use isometric grid paper, this leaves no room for error in determining axes.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE	Sketching Circles and Arcs	9	13
A 6,7,9	Sketching Straight Lines	9	13
NUMBERS B 2a,b, 4a,5	Square and Circle	9	14
APPLICATION	Freehand Drafting for Technical Sketching	13	11
C 2,7,8			
PHYSICAL	Teacher-made transparencies	12	
D 1a,b,c,d 2a	Styrofoam/wood problem models	2	

SUBCLUSTER: DRAFTING

Code: GCM - DT01 TASK: Prepare isometric sketches

Basic Information for Cooperative Teaching

Language of the Task

Isometric

Sketch

Freehand

Object/model

Horizontal/vertical

Single stroke lines

Parallel

Alignment

Front edge

Lower edge

Ellipse

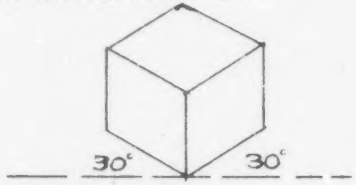
Oval

Shape

Quantitative Concepts

Estimate proportions and sizes of isometric objects drawn on paper

"The Isometric Box"



Interpret 30° angle of projection in the isometric box

Suggestions:

- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf and partially sighted students (Individualize without calling attention to the individual).

Supportive Instructional Materials:

Pencils, paper, models

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare multiview sketches

Code: GCM - DT02

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. sketch straight lines, arcs, and circles, exhibiting a degree of skill. 2. identify the different types of lines used in drafting. 3. describe basic shapes by sketching, exhibiting a degree of skill. 4. identify the three dimensions of an object and the views in which they appear. 5. identify the three most common views used in multiview projection. 6. determine the three views of an object from a given pictorial view. 7. determine the third view of an object from two given views. 8. describe and demonstrate the use of reference lines and 45° angle for projection. 9. describe simple objects by multiview sketches, exhibiting a degree of skill.

Instructional Methods

- Teacher-led blackboard discussion of procedures/techniques.
- Teacher demonstration of projection principles using object models and projection box.
- Students view transparencies and film loops.
- Students can review reference books in basic drawing procedures.
- Note: cutting views from an isometric box aids in seeing views.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE	Methods of Projection	12	12
A 1,6,7,9	Orthographic Projection (series of 16 colored)	12	12
NUMBERS			
B 2a,4a,5,6	"Spacing Views in Orthographic Multiview"	9	13
APPLICATION			
C 2,7,8	"Understanding Orthograpnic Multiview Projection"	9	13
PHYSICAL			
D 1a,b,c,d	Teacher-made transparencies	12	
2a	Models/blocks made of styrofoam or wood	2	
	Reference books	13	

SUBCLUSTER: DRAFTING

Code: GCM - DT02 TASK: Prepare multiview sketches

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	**Quantitative Concepts**	• Informally encourage voluntary buddy system for assisting deaf or partially sighted students (individualize without calling attention to the individual).
Orthographic projection Cube Circle Square Views front top right side left side back bottom Multiview Horizontal Vertical Alphabet of lines	Size Degrees Estimate: height, depth, length Recognize basic geometric shapes Recognize and estimate the proportions and sizes of objects drawn on paper	•

Supportive Instructional Materials:

Pencils, paper

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Letter drawings and graphic materials

Code: GCM - DT03

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. describe and demonstrate the fundamentals of and procedures to follow when lettering alphabet, numbers, and symbols. 2. letter freehand on a drawing, exhibiting a degree of skill. 3. describe and demonstrate the proper procedures in the use of lettering guides. 4. letter with a lettering guide on a drawing, exhibiting a degree of skill. 5. letter with a LeRoy Lettering Set. 6. letter with rub-on letters. 7. letter with typed notes. 8. letter with guideline aids.

Instructional Methods

- Students view film loop series.
- Teacher-led blackboard demonstration of proper lettering techniques.
- Students practice lettering on teacher-made work sheets, LeRoy Lettering Set, and with rub-on letters.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 6,9 NUMBERS B 2a, 4a APPLICATION C 2,5,8 PHYSICAL D 1a,b,c,d 2a,3g	McIntyre lettering series	9	14
	Teacher-made practice sheets	14	
	LeRoy Lettering Set	1	
	Rub-on letters	1	

SUBCLUSTER: DRAFTING

Code: GCM - DTQ3 TASK: Letter drawings and graphic materials

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Gothic lettering Vertical Inclined Single stroke Guidelines Title strip Notes Materials lists Capital (upper case) Lower case Density Punctuation marks	Distinguish between upper case/lower case Recognize number and fraction symbols Recognize two and three place decimals Recognize degrees of angularity 30° 45° 60°	• Do not teach lettering at the beginning of a course; it is difficult to hold attention of even the better students. • Informally encourage voluntary buddy system for assisting deaf students and partially sighted persons (individualize without calling attention to the individual). • Demonstration of correct and incorrect procedures to highlight the importance of correctness. •

Supportive Instructional Materials:
Pencil, prepared practice sheets, lettering guide

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Use drafting equipment in drawing simple shapes

Code: GCM - DT04

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe the use of the following pieces of drafting equipment:
   a. board covering
   b. straight edge, draft machine
   c. vellum, mylar, cloth
   d. triangles
      1) 45°
      2) 30°/60°
      3) adjustable
   e. scales
      1) architect's
      2) engineer's
   f. pencils, mechanical, plastic film (mylar)
   g. erasers
   h. erasing shield
   i. brush
   j. masking tape
   k. pointer
   l. compass
   m. protractor
   n. lead holder
   o. templates
   p. french curves, adjustable curves
   q. sepia, repro.
2. demonstrate proper use of commonly used pieces of drafting equipment.
3. draw basic shapes using commonly used pieces of drafting equipment, exhibiting a degree of skill.

Instructional Methods

- Teacher provides demonstration of the use of basic drafting tools and equipment.
- Students view film loops on use of equipment.
- Teacher-led small group demonstration.
- Teacher should discuss the use of equipment as it relates to all industries.
- Note: This should not be considered as a separate unit. It will be covered and reinforced in upcoming units.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,2,6,9	Complete set of demonstration equipment	1	
NUMBERS B 4a	"T-Square and Triangles I & II"	9	13
APPLICATION C 2,5	McIntyre loop series on "Drafting Procedures" 5 loops	9	14
PHYSICAL D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT04 TASK: Use drafting equipment in drawing simple shapes

Basic Information for Cooperative Teaching

Language of the Task

Names of drafting tools and equipment

Grades of pencils

Types of pencils

Points

Line weights
- thin line - sharp pencil
- medium lines - nearly sharp
- thick lines - slightly sharp

Quantitative Concepts

Recognize and interpret the following scales:
- 1" = 1"
- 1/2" = 1"
- 6" = 1'-0"
- 1 1/2" = 1'-0"
- 12" = 1'

Locate the midpoint of a line

Suggestions:

- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf and partially sighted students (individualize without calling attention to the individual).
-
- Drafting is the engineer's"language".
- Develop student awareness and attitudes related to drafting practices and techniques.
- Clear and concise drawings are essential for duplication (blueprinting). Distribution of these reproductions are utilized as the basis for the total manufacturing process.

Supportive Instructional Materials:

Pencil, paper, eraser, tape, board, T-square, triangles, etc.

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare geometric constructions with drafting equipment

Code: GCM - DT05

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe the proper procedures for completing the following geometric constructions:
   a. bisect an arc
   b. copy an angle
   c. divide a line into a given number of parts
   d. construct a triangle
   e. construct an equilateral triangle
   f. construct a square
   g. construct a pentagon
   h. construct a hexagon
   i. construct an octagon
   j. construct an ellipse.

2. accurately complete the identified geometric constructions for specific problems, following a prescribed procedure.

Instructional Methods

- Teacher-led discussion of difficult constructions with individual students.
- Teacher-led blackboard demonstration of construction procedures using transparencies.

Note: This task is particularly good for teaching manipulation of drafting tools.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,6,7,9 NUMBERS B 4a APPLICATION C 2,5 PHYSICAL D 1a,b,c,d 2a	"Geometric Construction - (2) Circles Lines"	12	12

SUBCLUSTER: DRAFTING

Code: GCM- DT05 TASK: Prepare geometric constructions with drafting equipment

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Bisect Divide Construct Angle Line Triangle Square Hexagon Octagon Pentagon Ellipse Segment Center Flats-points	Determine the length of a line Locate the center of a circle, line, etc. Interpret circular dimensions in: degrees minutes seconds	• This concept good for teaching manipulation of basic drafting tools and equipment. • Drill deaf student extensively on language of the task. • Informally encourage voluntary buddy system for assisting deaf or partially sighted students (individualize without calling attention to the individual). •

Supportive Instructional Materials:

Board, T-square, triangles, compass, dividers, scale

SUBCLUSTER: DRAFTING

TASK: Operate drawing reproduction machines

Code: GCM - DT06

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. describe the drawing reproduction process. 2. locate, identify, and adjust machine controls accurately. 3. identify and describe the proper steps to follow in making a reproduction of a drawing. 4. prepare quality blueprint reproductions using the drawing reproduction machine. 5. fix the reproduction machine in case of paper jam, following the prescribed procedure. 6. change developer fluid in the reproduction machine, following the manufacturer's prescribed procedure.

Instructional Methods

- Teacher demonstration of machine operation, adjustment, and use.
- Students run prints of their early drawings and recent drawings to compare line weight quality.
- Teacher and students discuss use of the reproduction machine as a quality control check of drawings.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,9 NUMBERS B 2a APPLICATION C 4,5,8 PHYSICAL D 1a,c,d 2a, 3c,f,g	Drafting reproduction machine and reproduction materials	1	

SUBCLUSTER: DRAFTING

Code: GCM - DTQ6 TASK: Operate drawing reproduction machines

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Light Exposure Ammonia development Prints blue-line black-line Rollers Switch	Determine the appropriate dial setting for speed of reproduction machine (see drafting instructor).	• Informally encourage voluntary buddy system for assisting deaf or partially sighted students (individualize without calling attention to the individual). • Demonstration of correct and incorrect procedures to highlight the importance of correctness. • Stress the importance of not exposing light-sensitive reproduction (print) paper to light before use. • Conduct an experiment in class demonstrating the reproduction process.

Supportive Instructional Materials:

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Construct and prepare isometric views

Code: GCM - DT07

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the proper axis for isometric drawings.
2. describe and demonstrate the procedures for locating non-isometric lines.
3. describe and demonstrate the procedures for constructing isometric circles and arcs.
4. describe and demonstrate the procedures for centering isometric drawings.
5. construct and prepare isometric views, exhibiting a degree of skill.

Instructional Methods

- Teacher leads blackboard demonstration of procedures for constructing isometric views with transparencies.
- Teacher provides individual student assistance on specific problems.
- Students view film loops to reinforce concepts.
- Students complete partially finished views from a teacher-prepared problem sheet.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,2,6,9	"Constructing Isometric Cylinders"	12	12
NUMBERS B 4a	"Developing on Isometric Circle"	12	12
APPLICATION C 2,5	"Principles of Isometric Drawing"	12	12
PHYSICAL D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT07 TASK: Construct and prepare isometric views

Basic Information for Cooperative Teaching

Language of the Task

Isometric

Oblique

Cavilier

Cabinet

Non-isometric

True length

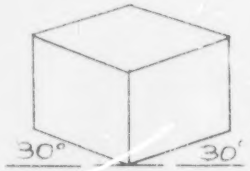
Fore shortened

Ellipse

Axis

Quantitative Concepts

Identify the 30° axes of the isometric box



"the isometric box"

Suggestions:

- A unit easy to understand. Can build interest and confidence with this material.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf and partially sighted students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Board, T-square, triangles, arch scale

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Construct and prepare multiview drawings

Code: GCM - DT08

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify the three most common views used in multiview projection.
2. determine the three views of an object from a given pictorial view.
3. determine the third view of an object from two given views.
4. describe and demonstrate the use of reference lines for projecting multiview drawings.
5. accurately center a multiview drawing in a given space.
6. display fundamental knowledge of line construction and technique.
7. constructs and prepares multiview drawing problems .

Instructional Methods

- Students cut and construct styrofoam blocks to visualize solutions of multiview problems.
- Students prepare and construct solutions for progressively difficult series of multiview problems.
- Teacher-led blackboard demonstration of construction procedures with transparencies.
- Students complete exercise in missing lines.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
A 6,9	Styrofoam model/blocks	1	
NUMBERS	"Two View Orthographic-	12	12
B 2a,4a	Needle Valve"		
APPLICATION	"Three View Orthographic -	12	12
C 2,5,7,8	Drill Block"		
PHYSICAL	Missing line problems -	14	
D 1a,c,d	teacher prepared		
2a,3g			

SUBCLUSTER: DRAFTING

Code: GCM - DT08 TASK: Construct and prepare multiview drawings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Language of industry Views front top side Projection Orthographic Center Spacing Lines object center dimension construction	Construct these angles using a protractor, compass, and ruler 45° angle 30° angle Measure a drawing of an observable object and determine the scale. One (1) foot (') or one (1) inch (") equals what fractional part of an inch? inch fractions length height depth	• Drill deaf student extensively on language of the task. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).

Supportive Instructional Materials:

Board, T-square, triangles, scale

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Dimension drawings

Code: GCM - DT09

Student Name:

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. display a knowledge of the elements of dimensioning. 2. define specific common dimensioning terms. 3. apply specific dimensioning rules, techniques, and conventions to conform with specified engineering standards. 4. read and interpret various dimensioning tables, with a degree of accuracy. 5. dimension given drawing problems with a degree of skill.

Instructional Methods

- Teacher leads blackboard demonstration of each dimensioning technique using transparencies.
- Student prepare solutions to dimensioning problems, illustrating the appropriate use of each technique on a drawing.
- Teacher prepares student information sheet containing dimensioning rules, with illustrated examples of each rule.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,3,6,7,8,9 NUMBERS B 1,2,4a,5,6 APPLICATION C 2,7,8 PHYSICAL D 1a,b,c,d 2a	"Dimensions" Student information sheet on dimensioning	12	12

SUBCLUSTER: DRAFTING

Code: GCM - DT09 TASK: Dimension drawings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Size description Dimension line Extension lines Arrowheads Leader Note Center Center line Object line	Recognize and interpret decimal dimensions (2 place - .01) (3 place - .001) (4 place - .0001) Interpret dimension tables for fastener sizes, etc.	• This is a difficult concept; move slowly, try to teach as a separate unit. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Demonstration of correct and incorrect procedures to highlight the importance of correctness.

Supportive Instructional Materials:

Basic tools

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare graphs and charts

Code: GCM - DT10

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify and describe principles for preparing line, bar, and circle graphs.
2. identify and describe principles for preparing organization and flow charts.
3. accurately prepare specific types of charts and graphs, exhibiting a degree of skill:
   a. line graph
   b. bar graph
   c. circle graph
   d. flow chart
   e. organization chart.
4. demonstrate the effective use of colors in preparing graphs and charts.

Instructional Methods

- Teacher should arrange and organize correlated study problems with math instructor for presenting concepts in this unit.
- Students prepare and letter specific types of graphs and charts properly illustrated with colors and/or symbols.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7,8,9	Tape	1	
NUMBERS B 1,2a,b 4a,e, 5,6	Rub-on letters	1	
	Lettering aids	1	
APPLICATION C 6,8			
PHYSICAL D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT10 TASK: Prepare graphs and charts

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Types of graphs line bar circle or pie Types of charts organizational flow	Determine percentages as applied to constructing charts and graphs Ratio proportion: use a specified color and/or definite length of line or degrees of a circle to represent a frequency of occurance, distance, weight, etc.	• Be conscious of using good mouth formation of words. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Drill deaf student extensively on language of the task. • Interpret charts that have some interest factor to the student's life.

Supportive Instructional Materials:

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Develop and construct sectional views

Code: GCM - DT11

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. define, explain, and illustrate the following elements of sectional views:
   a. cutting plane
   b. section lines
   c. conventional representations.

2. identify, describe, and illustrate the various types of sectional views:
   a. full
   b. half
   c. revolved
   d. removed
   e. offset
   f. broken-out
   g. aligned.

3. select and accurately construct the appropriate sectional view for a given problem.

Instructional Methods

- Teacher illustrates sectioning concepts using teacher-constructed problem blocks or models.
- Students prepare solutions to simple problems for each type of section.
- Teacher discusses sectioning examples from industrial/residential prints.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 6,7,8,9 NUMBERS B 2ab,4ae,5 APPLICATION C 2,7,8 PHYSICAL D 1a,b,c,d 2a	Industrial/residential prints	1	
	Problem blocks - teacher made	2	
	"The Cutting Plane"	12	12

SUBCLUSTER: DRAFTING

Code: GCM - DT11 TASK: Develop and construct sectional views

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Cutting plane Section lines Crosshatching Conventional representations Types of sections full half revolved removed offset broken	Accurately measure lengths of lines on paper Accurately measure angles of objects on paper Determine appropriate equal spacing between views on a sheet of paper	• Can be used to reinforce shape description and dimensioning. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Drill deaf student extensively on language of the task.

Supportive Instructional Materials:

Basic drafting tools

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare auxiliary views and revolutions

Code: GCM - DT12

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will 1. identify, describe, and illustrate procedures used in constructing different auxiliary views: a. inclined surfaces b. reference lines c. primary auxiliaries d. secondary auxiliaries. 2. identify, describe, and illustrate procedures used in constructing revolutions: a. axis of revolution b. "Rule of Revolution" c. practical application.	• Teacher uses 3-D problem blocks to illustrate concept of auxiliary and revolution. • Students prepare simple solutions to auxiliary and revolution problems. • Students view film loops.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 7,8,9 NUMBERS B 2ab,4ae,5 APPLICATION C 2,7,8 PHYSICAL D 1a,b,c,d 2a/b 3c,g	Teacher-prepared problem blocks	2	
	"Plotting Curves in Auxiliary Views"	12	15
	"Projecting Auxiliary Views"	12	15

SUBCLUSTER: DRAFTING

Code: GCM - DT12 TASK: Prepare auxiliary views and revolutions

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Inclined surfaces Auxiliaries Axis Parallel	Supportive help on this level will have to be determined by the two teachers working together because to be at this level the fundamental concepts will already have been mastered.	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual). • Drill deaf student extensively on language of the task. • One way a teacher could check to see if the student understood the position of a drawing would be to have the student place an object in the same position as a drawing, then explain the need for auxiliary views and revolutions.

Supportive Instructional Materials:

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Construct developments and intersections

Code: GCM - DT13

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and demonstrate the procedures for developing plane and curved surfaces. 2. describe and demonstrate the process of triangulation. 3. identify and demonstrate the procedures for developing transition pieces. 4. define and identify "point of intersection" and "line of intersection". 5. describe and demonstrate the procedures for constructing intersecting prisms, cylinders, cylinder and prism, and cylinder and cone. 6. constructs developments and intersections with acceptable engineering standard accuracy.

Instructional Methods

- Students lay out and prepare solutions to specific problems covering each type of intersection/development.
- Students prepare scaled paper models of developments/intersections to check solutions.
- Students view film loops on development procedures.
- Teacher should demonstrate the use of math solutions to solve problems.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 6,8,9	Paper models	2	
NUMBERS B 2ab,4ae,5	"Surface Development" [Three (3) loops] Parallel Line Radial Line Triangulation	9	13
APPLICATION C 2,7,8			
PHYSICAL D 1a,b,c,d 2a,3c,g			

SUBCLUSTER: DRAFTING

Code: GCM - DT13 TASK: Construct developments and intersections

Basic Information for Cooperative Teaching

Language of the Task

Surface
plane
single curve
double curve
warped

Developable surface

Line

Generatrix

Element

Parallel

Oblique

Cylinder

Cone

Sphere

Torus

Ellipsoid

Hyperboloid

Plain

Solid

Locus

Axis

Intersection

Development

Conic section

Triangulation

Transition piece

Quantitative Concepts

Recognize common geometric figures and shapes

At this level, a supportive teacher could best reinforce the vocational teacher by working with strictly individualized problems and generally recognizing the need for accurate measurements and keen observation of surface changes which represent a drafting problem.

Suggestions:

- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- Informally encourage voluntary buddy system for assisting deaf students (individualize without calling attention to the individual).
- Be aware of the key word interpretation which lip reading deaf students make from your speech.

Supportive Instructional Materials:

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Construct and prepare perspective drawings

Code: GCM - DT14

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. identify terms related to perspective drawings.
2. describe and demonstrate the procedures for constructing one-point and two-point perspective drawings.
3. construct and prepare perspective drawings, with acceptable engineering standard accuracy.
4. describe and demonstrate different techniques or methods of shading perspective drawings.

Instructional Methods

- Students review magazine pictures or appropriate materials illustrating perspective and related concepts.
- Students shade and render lined perspective drawings.
- Teacher demonstrates the use of perspective grid paper.
- Teacher leads blackboard discussion of procedures for constructing perspective drawings.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE			
A 6,8,9	"Pictorial Drawings"	12	12
NUMBERS	"Two Point Perspective Drawing"	9	13
B 2ab,4a,5			
APPLICATION	"One Point Perspective Drawing"	9	13
C 2,7,8			
PHYSICAL	Perspective grid paper	1	
D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT14 TASK: Construct and prepare perspective drawings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Vanishing point Horizon line Station point Horizon plane Ground plane Ground line Center of vision Piercing point End points Station point One point perspective Two point perspective Angular perspective	The accuracy of natural talent for perspective drawing can be appreciated by the carefully measured angles of triangulation. The similarity of the two drawings justify training for those who may not have a "natural eye" for this skill.	• Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • The development of respect for skills both natural and trained might be one of the most constructive things the supportive teacher could do. This could be done both with perspective drawings and photographs.

Supportive Instructional Materials:

Photographs
Perspective drawings
Sketch pads or drawing paper
Pencils, T-squares, triangles, compass, etc.

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Detail screw threads and fasteners

Code: GCM - DT15

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	

Given the necessary tools, materials, equipment, and requisite knowledge, the learner will:

1. read and interpret screw thread charts.
2. discriminate between specific types of screw-thread representations:
   a. detailed
   b. schematic
   c. simplified.
3. define and list the various parts of screw thread specifications.
4. identify and describe the types of screws.
5. identify and describe related screw-thread terms.
6. identify, describe, and illustrate different bolt head and nuts.
7. identify, describe, and illustrate specific types of fasteners.
8. detail specific types and sizes of screw threads and fasteners for a given problem with engineering standard accuracy.

Instructional Methods

- Teacher collects different types and sizes of screw threads and fasteners and have students measure sizes of each in class.
- Students layout, prepare, and detail screw threads and fasteners from real objects.
- Teacher demonstrates the use of a screw pitch gage.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,8,9	Threaded bolts and fasteners	1	
NUMBERS B 2a,b 4ae,5,6	Thread measuring instruments	1	
	"Thread notes"	12	15
APPLICATION C 2,3,8	"Threads and Conventional Threads"	12	15
PHYSICAL D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT15 TASK: Detail screw threads and fasteners

Basic Information for Cooperative Teaching

Language of the Task

Schematic
Simplified
Pitch
Double
Triple
Square thread
Standard thread
External thread
Internal thread
Diameter
major
minor
pitch
Lead
Angle of thread
Crest
Root
Depth
Single
Multiple

Quantitative Concepts

Interpret measurements down to fractions of an inch

Recognize: the number of threads per inch

Accurately measure angles, depths, and lengths

Metric measurements at this level cannot be overlooked

Suggestions:

- Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.
- Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
- To appreciate the need for accuracy time should be spent discussing, observing and manipulating screws and fasteners to show that they:
  1) hold parts together
  2) adjust parts with reference to each other
  3) transmit power.

Supportive Instructional Materials:

Collection of screws and fasteners
Appropriate measurement tools to match

SUBCLUSTER: DRAFTING

Sheet 1 of 1

TASK: Prepare design and working drawings

Code: GCM - DT16

Student Name: _____

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe the various types of working drawings: a. detail drawings b. assembly drawing 1) unit 2) group 3) outline 4) check 5) display. 2. demonstrate the various practices basic to the preparation of working drawings: a. choice of views b. choice of scale c. location of views d. grouping and placing e. order of working f. titles g. parts' list h. identification of parts.

Instructional Methods

- Students select an appropriate product, tool, jig, fixture, etc., with multiple parts from the shop area, and prepare a detailed working drawing from the object.
- Teacher works individually with students in discussing the preparation of their specific set of working drawings.
- Students should consult with machinists, machine operators, and other people who will be reading the set of drawings.

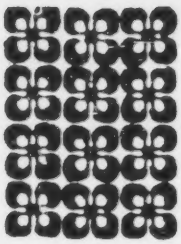
Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,8,9	"Working Drawing-Main Bearing"	12	12
NUMBERS B 1,2ab,4a, 5,6	"Engineering Drawing Problems, Series 1"	14	13
APPLICATION C 2,3,5,6,7,8			
PHYSICAL D 1a,b,c,d 2a			

SUBCLUSTER: DRAFTING

Code: GCM - DT16 TASK: Prepare design and working drawings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Detailed drawing Working drawing	Review selected quantitative concepts previously identified, based on each individual student's needs.	• Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task. • This task represents an accumulation of all the drafting skills outlined previously.

Supportive Instructional Materials:



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GRAPHICS AND COMMUNICATION MEDIA CLUSTER

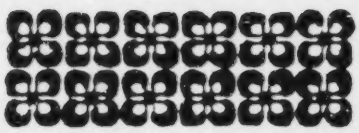
Bib. Ref. No.	Company Name/Address	Title
1.	Bailey Film Association 11559 Santa Monica Blvd. Los Angeles, California 90025	"Stencil Cutting"
2.	E.M. Hale and Co. 1210 South Hastings Way Eau Claire, Wisconsin 54701	"Let's Go to a Paper Mill"
3.	Eye Gate House, Inc. 146-01 Archer Avenue Jamaica, New York 11435	"The Parts of Books"
4.	GAF Corporation Reprographic Products 140 W. 51st Street New York, N.Y. 10020	"Proofreaders' Marks A through S"
5.	Indiana University Audio-Visual Center Field Service Department Bloomington, Indiana 47401	"Packaging Practice" "Exposure Meter"
6.	International Film Bureau, Inc. 332 South Michigan Avenue Chicago, Illinois 60604	"Platen Press Makeready"
7.	Quebec Department of Tourism (No address available)	"The Forest About Us"
8.	Scope Productions, Inc. 1616 West Shaw Avenue Fresno, California 93705	"Packaging Design"
9.	STAS Instructional Material, Inc. 1225 Eighth St. Berkeley, California 94176	"The Art of Binding"
10.	Tumbo, John (No address available)	"Seriography - Methods and Techniques of Guy MacCoy"

11.	Van Nostr Reinhold 450 West 33rd Street New York, N.Y. 10001	"Textile Printing" Freehand Drafting for Technical Sketching
12.	DCA Educational Products 4865 Stenton Avenue Philadelphia, Pa 19144	"Methods of Projection" "Orthographic Projection" "Geometric Construction: Circles" "Geometric Construction: Lines" "Cabinet Drawing" "Constructing Isometric Cylinders" "Oblique Drawing" "Developing and Isometric Circle" "Principles of Isometric Drawing" "Pictorial Drawing (Cavalier)" "Two View Orthographic-Drill Block" "Dimensions" "The Cutting Plane" "Pictorial Drawing" "Working Drawing-Main Bearing" "Foundry-Type Parts" GA13 "Letterpress Lock Up" GA20 "Type Measurement Parts" GA15 "California Job Case" "Parts of a Book" GA12 "Parts of a Case Bound Book" GA34 "Sewn Binding Methods" GA34 "Wire Staple Binding" GA32 "Binding Methods" GA31 "Laying Out a Flat" GA21 "Horizontal Process Camera "Enlarging and Reduction Scale" GA10 "Aperature" GA18 "Offset Systems" GA25-29
13.	McGraw-Hill Book Co. Tom Troseth 2358 Crestview Drive Wyoming, Michigan 49509	"Sketching Circles and Arcs" "Sketching Straight Lines" "Spacing Views in Orhtographic Multiview" "Understanding Orthographi Multiview Projection"

	McGraw-Hill Book Co., continued	"T-Square and Triangles I and II" "Oblique Drawing" "Surface Development" (3 loops) "Two Point Perspective Drawing" "One Point Perspective Drawing" "Engineering Drawing Problems, Series I"
14.	McIntyre, Inc.	Square and Circle Lettering series (loops) Drafting procedures series (loops)
15.	Visual Materials, Inc. 2549 Middlefied Road Redwood City, Ca 94063	"Plotting Curves in Auxiliary Views" "Projecting Auxiliary Views" "Thread Notes" "Threads and Conventional Threads"
16.	Charles A. Bennett 809 W. Detweiller Drive Peoria, Ill 61614	Graphic Arts by Carlsen
17.	Drake Publishers, Inc. 381 Park Avenue, South New York, New York 10016	"Fundamentals of Silk Screen Process"
18.	McKnight and McKnight Publishers Bloomington, Illinois	General Printing Photo Offset Fundamentals The Book of Binding Practical Photography Silk Screen Printing
19.	ACI Productions 16 West 46th Street New York, N.Y. 10036	"Silkscreen"
20.	Imperial Film Co., Inc. 4044 S. Florida Avenue Lakewood, Fla 33803	"Silkscreen Printing"

21.	Eastman Kodak Co. 343 State Street Rochester, New York 14650	"How to Develop Black and White Film"
22.	B.F.A. Educational Media 2211 Michigan Avenue Santa Monica, Calif 90404	"Fundamentals of Layout and Design" "Introduction to Graphic Design" "Tools of the Graphic Arts"
23.	Modern Talking Picture Service 15921 W. Eight Mile Rd. Detroit, Michigan 48235	"The Paper Forest"
24.	Visual Arts Studio 1909 Avenue Q Huntsville, Texas 77340	
25.	Coronet Instructional Films 65 East South Water Chicago, Illinois 60601	"Paper and Pulp Making"
26.	Encyclopedia Brittannica 425 South Michigan Avenue Chicago, Illinois 60611	"Printing Through the Age
27.	Delmar Publishers, Inc. Division of Litton Educ. Pub. Inc., Mountainview Avenue Albany, New York 12205	Printing Layout and Desig
28.	University of Iowa Audio-Visual Center C-5 East Hall Iowa City, Iowa 52240	
29.	University of Minnesota Audio Visual Education Service Room 55, Westbrook Hall Minneapolis, Minn 55455	
30.	Lanny R. Johnston Calhoun Area Vocational Center 475 East Roosevelt Battle Creek, Michigan 49017	"Imposition Techniques" "Additive Plates" "Subtractive Plates" "Platen Press Makeready"

31.	Addressograph-Multigraph Corp. Cleveland, Ohio 47117	Graphic Arts Training in Schools



APPENDIX

- INSTRUCTIONAL MATERIALS CODE
- TASK-RELATED COMPETENCIES CODE

INSTRUCTIONAL MATERIALS CODE

MEDIA CODE/INDEX

Code	Media	Probable Learning Sensations					
		Vis.	Aud.	Tac.	Kin.	Ole.	Sav.
1	Demonstration with real objects/materials	x	x	x	x	x	x
2	3-D models - Mockups	x	x	x	x	x	x
3	Games - Simulators	x	x	x	x	x	x
4	Sound/Slide Programs	x	x				
5	Filmstrip - Cassette/Record	x	x				
6	TV - Broadcast, Closed Circuit	x	x				
7	Video and/or Audio Recorder	x	x				
8	Film, 16mm - BW/Color, Sound	x	x				
9	Film loop, 8mm	x					
10	Filmstrip	x					
11	Slides	x					
12	Overhead transparencies	x					
13	Books, Magazines, Texts, Booklets	x					
14	Pamphlets, Brochures, Manuals, Workbooks	x					
15	Newspapers, Cartoons	x					
16	2-D Displays, Charts, Graphs, Posters	x					
17	Drawings, Photographs, Schematics, Maps	x					
18	Opaque Projectuals	x					
19	Telephone, Intercom		x				
20	Other, specify						

BIBLIOGRAPHY REFERENCE

. . . complete ordering information for each of the commercially or teacher-produced instructional materials may be obtained by checking this reference number in the Instructional Materials Bibliography located in the back of the Cluster Guide.

TASK-RELATED COMPETENCIES

The task-related competencies are a summation of the specific skills, understandings, and/or attitudes that are necessary to satisfactorily accomplish the instructional tasks found in the ten cluster guides. The following listing is used for interpreting the Task-Related Competency code numbers found on each task sheet. A more detailed description of each of the identified competencies can be found either in the Program Guide or the Project Handbook.

A. SKILLS BASED ON KNOWLEDGE

1. Name one or more items
2. Request supplies and/or equipment
3. Check for accuracy and, if necessary, require correction of self and/or others
4. Discriminate sound cues, recognize normal sound as opposed to abnormal sound
5. Identify color
6. Identify form, size, shape, texture
7. Sequencing - Respond by pre-determined plan
8. Write identifying information of persons, places, and/or objects, serial no., weight, and/or types of products on slips or tags, etc.
9. Obtain information through sight, shape, size, distance, motion, color, and other unique characteristics
10. Discriminate olfactory cues

B. CONCEPT OF NUMBERS BASED ON KNOWLEDGE

1. Ordinal
2. Cardinal
   a. read numbers and/or copy
   b. count and/or record
3. Make change (money)
4. Measure
   a. distance
   b. weights - volume - balance
   c. liquids - solids
   d. time (measurement of)
   e. degrees of circle
   f. temperature, pressure and humidity
   g. torque
   h. electricity
   i. plumb - level
5. Perform simple addition and/or subtraction
6. Perform simple multiplication and/or division

TASK-RELATED COMPETENCIES, continued. . .

C. COMPREHENSION AND PERFORMANCE

1. Forms
   a. write
   b. file, post and/or mail
2. Match
   a. duplicate
   b. sort
3. Check lists and/or fill out report forms
4. Time awareness
5. Follow verbal symbol and/or written direction
6. Recognize words (not numbers) or ability to read and/or write
7. Depth perception
8. Ability to select most appropriate solution
9. Concept of distance

D. SKILLS BASED ON PHYSICAL ABILITIES

1 Fine Coordination
   a. coordinate eyes and hands or fingers accurately
   b. make precise movement
   c. move fingers to manipulate objects
   d. move hands skillfully - placing and turning motion
   e. coordinate hand and foot
   f. feeling - perceiving objects and materials as to size, shape, temperature, moisture content, or texture by means of touch
2. Strength (lifting, carrying, pushing, and/or pulling)
   a. sedentary work, 10# occasionally lifting and/or carrying small items such as tools, etc.
   b. light work, 20#, requires a significant amount of standing or walking
   c. medium work, lifting 50#, frequent lifting and carrying objects weighing 25#
   d. heavy work, frequent lifting and/or carrying up to 50#
   e. very heavy work - lifting objects in excess 100#, lifting and/or carrying objects weighing 50# or more
3. Gross Coordination (climbing and/or balancing)
   a. maintain body equilibrium to prevent falling when walking, standing, crouching, or running on narrow, slippery or moving surfaces
   b. ascend and descend ladders, stairs, scaffolding, ramps, poles, ropes, using feet and legs and/or hands and arms
   c. reaching - extending hands and arms in any directions
   d. crawling - moving on knees or hands and feet
   e. kneeling - bend legs at knees to rest on knee or knees
   f. stooping - bend downward and forward by bending legs and spine
   g. bending - downward and forward by bending at the waist